

MANUFACTURERS' RECORD.

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BALTIMORE, JANUARY 17, 1901.

The Select Few.

239 Market Street.

Philadelphia, Pa., December 26, 1900.

Manufacturers' Record Publishing Co.,
Baltimore, Md.

Esteemed Friends—We have your acknowledgment of our renewal of contract, and in this connection you will be interested to know that in reducing our trade-paper advertising for the coming year, in order to use most of our advertising outlay in another way, your paper is one of the few with which we continue.

Very truly,

J. E. RHODES & SONS.

The Manufacturers' Record recently arranged with Mr. Edward H. Sanborn, general manager of the National Association of Manufacturers, to spend his vacation in a study of cotton-mill conditions in the South, in order to prepare a series of special articles upon this industry, dealing with the subject as it might impress him, whether favorably or unfavorably, as it is always best to see ourselves as others see us. In this issue we publish the first of Mr. Sanborn's letters, in which he gives a detailed description of the "Olympia" at Columbia, the largest single mill in the United States.

The Great Southwest.

In order to fully cover the rapid advancement of the great Southwest, the Manufacturers' Record has put a special correspondent, Mr. Albert Phenix, in that territory. His letters will broadly cover the whole Southwest, and give to our readers from week to week a graphic story of conditions as they exist. The wonderful natural resources and the rapid upbuilding of Texas and Arkansas and the Southwest generally are hardly appreciated by the people of the East, and hence to many the facts which Mr. Phenix will give from week to week will prove something of a revelation. The simple fact stated in his letter published today that the cotton crop of Texas for the lint alone will this year yield \$45 for every man, woman and child in the State is of itself calculated to arrest attention. A State which has one crop of such magnitude, and whose soil produces

almost every other crop known to a temperate climate, and whose mineral and timber resources are sufficient to create even more wealth than its agriculture, is a State which must be reckoned with in forecasting the future of our country.

Tasks for the World.

Reviews of the wonderful progress of civilization during the past century are appearing on all sides. No phase of human progress is being neglected. If all the books and magazine and newspaper articles written by authorities in their respective fields could be gathered together, they would form in themselves a library thoroughly typical of the achievements of a hundred years. It would be a library full of suggestion for the investigator and student, of interest for the men and women seeking to keep abreast of modern culture, and of facts for the merely curious. The most pronounced feature about it, though, perhaps, would be its record of the preparations and equipment of men for the tasks of the present century, and, indeed, of the next twenty or twenty-five years. These are many and great. In many instances their plans have been well designed, and in some are being carried out. Illustrative of them is an article in the current issue of *The World's Work* which is worth reading, if only for the purpose of broadening one's horizon and of inspiring him with the desire to see accomplishment.

Only certain great lines of development are considered. These include the construction of a railroad bisecting the continent of Africa from north to south, "the Cape to Cairo" scheme of Cecil Rhodes, with several hundred miles of track at each end now in operation; the construction of a railway into the Sahara by the French, the completion of the Russian Trans-Siberian road, and the construction, under the same auspices, of a line bringing St. Petersburg into close touch with the Persian Gulf; the building of segments of a railroad by the English through the southern part of Asia, with terminus at Shanghai, shortening by many hundred miles the journey from London to Peking; the union of the Pacific and the Atlantic oceans by a great isthmian waterway, an immense canal connecting the Baltic and the Black seas through Russia, a series of waterways giving safe passage between Boston and Galveston, and inland for the greater part of the distance; the connection by ship canal of the Great Lakes and the Mississippi, the improvement of that mighty stream itself and of its tributaries on the western side of the valley, and a number of other comparatively minor undertakings.

The work in Asia and Africa means, of course, the opening to the world of commerce and the arts of vast regions, some of them practically unknown to civilization, the extension of trade in that direction and the uncovering of

mineral wealth and the economic exploitation of other resources, making it possible for the world to support in comfort a greater population than ever before. Another continent, South America, is also to come under the influence of great developmental schemes in which the Russians and the English-speaking peoples are at present leaders, and it may be that Germany will find in the Latin-American republics the opportunity for venting its industrial aspirations which otherwise might be cramped by the competition of England and the United States, to say nothing of Russia's power when that nation finds itself planted close to the fuel and ore deposits of China.

Judging from what has been done, there is reason to believe that many of these vast plans, if not all of them, will be nearing completion before the middle of this century. They are so immense in their possibilities that it is difficult, if not impossible, to estimate their full effects upon the human race. But it is undoubted that they will mean more clothes to be worn, more steel rails, steel cars and steel engines to be made, more agricultural machinery to be manufactured, and, in fact, an enormous expansion of industrial life. The nation which is equipped like the United States with the raw material, machinery and the men to meet the coming demands, and with the enterprise to anticipate them, will be the nation leading the world at the turn of the next century.

Another Texan Stride.

On another page of this week's Manufacturers' Record is published an article from a special correspondent describing in most interesting manner the feeling of prosperity prevailing generally in Texas, and pointing to the natural resources of the State and their development as the reason. Texas is full of promise. It has the soils and the climate upon which may be built an agricultural, industrial and commercial structure unsurpassed by that of any other State in the country. Only in recent years, with the extension of railroads, has come anything like an adequate realization of the timber and mineral wealth, and the rapidity of progress in this direction is well illustrated by the fact that as the special correspondent was penning his letter a mighty gush of oil was struck in Southeastern Texas, eighteen miles from Sabine Pass and fourteen miles from Port Arthur. This well, which is about 240 miles from the Corsicana field in Navarro county, where such remarkable work has been done in the past six years, has a depth of about 1000 feet and flows at the rate of 15,000 barrels a day, according to dispatches from Texas, where the news of the wonderful strike is naturally exciting much enthusiasm.

Already an export business has begun from the Corsicana field, but it is pointed out that the situation of the new field, practically right on the Gulf

coast, will enable it to command seaboard shipping facilities equalled by no other oil field in the United States. If the statements about the field should prove correct in all particulars, and should other wells of like character follow in the vicinity, it is easy to see that the export business of Texas in cotton, cotton oil, cattle and grain now centering largely at Galveston will be vastly increased by the addition of oil from other ports. Texas is constantly revealing new potentialities. It is yet, as far as under ground is concerned, largely an undiscovered country. What the future has in hand for it is a matter of conjecture, though all probabilities point to the opening of an immense mineral storehouse.

The American Danger.

A German editor sitting in an office furnished from America and pounding from an American typewriting machine an article warning his countrymen against the inroads of American industrial trade is in rather an anomalous situation for the German. It is not imaginary. It is acknowledged by the editor of the *Hamburger Fremdenblatt* in the course of a discussion of "The American Danger." Taking the figures of the annual report of Secretary Gage as his text, the editor says that they speak a threatening language, and that they clearly and forcibly state that the United States is marching with gigantic strides toward conversion from an agricultural to an industrial nation. He presents a broad review of the influences which have contributed to the strength of this country as an exporter of manufactured goods, the growth of numerous industries enlarged through the assistance of a protective tariff on their products, and finding, in consequence of rich harvests and the active building of railroads and the founding of other industries, an eager market at home and increased demand abroad, the adoption of practical and highly-improved processes and the use of labor-saving machines, and the strengthening of domestic financial conditions leading to emancipation from foreign money centers, and he shows that as soon as American industries thus secured their own footing they began to dominate foreign markets and made their influence felt in Europe. The industries, trade, agriculture, railroads and finances of the United States have all climbed, he says, one upon another, through and by each other, steadily upward to a great height. He adds:

If we now turn to an investigation of all the elements which have produced this tremendous, this almost incredible, revolution in the world's situation, it is impossible within our present limits to consider all the factors which are of importance to German interests, as well as essential to a comprehensive conclusion. Competent experts, well informed as to the industrial and export conditions which prevail in the United States, have established the following facts: The steel manufactures of the United States, which two decades ago were in their infancy, today control the markets of the world, dictate either directly or indirectly

the prices of iron and steel in all countries, and, partly through the richness of their supply of iron ores and coal, partly by the use of labor-saving machinery and skillful, effective means of transportation, have attained a position to not only compete with the older iron and steel producing countries, but even to profitably export their products to England.

American tools, especially hatchets, axes, files, saws, boring implements, etc., enjoy, by reason of their excellent quality, the best reputation, and in spite of their higher price stand above competition in nearly the whole world. Also in sewing machines, bicycles and agricultural implements of every kind the United States has begun to drive England and Germany from the world's markets, especially that of Russia, which may be partly attributed to the fact that American firms are protected in their own market from foreign competition, and can thus sell their manufactures cheaper abroad than at home.

A remarkable change has also taken place in the field of boot and shoe production. Hardly more than ten years ago the United States imported shoes from Europe, especially women's footwear from Austria, while other grades were made of leather imported from England and Germany. Today it not only makes its entire supply of leather at home and exports it in considerable quantities, but it floods Europe with ready-made shoes, competes with the products of cheap labor in England, establishes shoe depots in Paris, and even in the principal cities of Germany.

That the United States, by reason of its richness in mineral oils and aided by its unrivaled facilities for refining and transporting this international necessity, controls the petroleum trade of the world and is held in check only by Russia is well known, and the fact is only cited here in order to include this weighty factor in the calculation. The experience of the past few months proves that within a not far distant period the coal of the United States will play the same role in the markets of the world. The Union has reversed the old adage, "It is ridiculous to carry coals to Newcastle," for today anthracite coals from Pennsylvania are actually exported to England.

Incidentally it may be remarked that the typewriting machine with which this article is written, as well as the thousands—nay, hundreds of thousands—of others that are in use throughout the world, were made in America; that it stands on an American table, in an office furnished with American desks, bookcases and chairs, which cannot be made in Europe of equal quality, so practical and convenient, for a similar price. The list of such articles, apparently unimportant in themselves, but in their aggregate number and value of the highest significance, could be extended indefinitely. But it would seem more interesting and characteristic to cite the fact that an American syndicate is now planning and has even taken the initial steps in a scheme to take in hand the whole sleeping-car service of Europe, to improve it and make it cheaper than is now possible. Moreover, American manufacturers of underclothing, gloves and men's clothing, as well as women's cloaks—all articles which a few years ago were exported in vast quantities from Europe to the United States—are already beginning to calculate how they can place their surplus output in European markets.

But enough of examples. Everyone who understands the existing conditions and has followed these conclusions, drawn from the best sources and based upon thorough knowledge of the facts, will agree that the threatened danger from America is neither exaggerated nor painted too darkly, but is, in fact, real and serious. But the mere recognition of the peril avails nothing. What is demanded is to face it, to overcome it, or at least to minimize as far as possible its effects. We must ask ourselves whether this is still possible, and if so, what are the means, the methods, that must be employed to secure a successful result. There is but one answer to this question. We must fight Americanism with its own methods; the battle must be fought with their weapons, and wherever possible their weapons must be bettered and improved by us. Or, to speak with other and more practical words, Germany—Europe—must adopt improved and progressive methods in every department of industry, must use more and more effective machinery. Manufacturers as well as merchants must go to America, send thither their assistants and workmen, not merely to superficially observe the methods there employed, but to study them thoroughly, to adopt them, and wherever possible to improve upon them, just as the Americans have done and are still doing in Europe.

It may be possible for Germany to meet the United States with similar weapons of commercial warfare and with similar plans of battle. It may secure, as it is trying to do, the best American machinery and machine-making devices. It may induce skilled Americans to enlist in its behalf as industrial leaders. But will it be able, notwithstanding its persistent, intelligent and well-directed efforts to train to the best the millions of its industrial population, to compete successfully against traits peculiarly those of the American workman and readily assumed by workmen of other lands coming to dwell in America? Will Germany or the whole of industrial Europe combined, as Leroy-Beaulieu would have it, be able to overcome the enormous advantage possessed by America in location for the assembling of raw material and the distribution of manufactured goods, and in the possession of enormous natural resources greater than those of the whole of Europe? Even should European nations secure through world exploitation resources of raw material not yet laid bare, they would still have to face the strong American position well illustrated in the building of cotton mills in the cotton fields, or of iron factories upon sites within a stone's throw of fuel, iron ore and fluxing material. Besides, America may have something to say about the appropriation by other nations of newly-discovered ore deposits. It ought to be enough, though, for America to know that Germany and England and perhaps other nations are beginning to appreciate its industrial power.

The Hope of Labor.

That working agreements between large organizations of employers for the reduction to the minimum in certain lines of strikes and lockouts are succeeding is becoming every day more manifest, and is encouraging efforts for a wider application of the principles of conciliation and voluntary arbitration to the relation of labor and capital. Significant of this was the national conference held last month under the auspices of the National Civic Federation, resulting in the formation of a joint committee of representatives of large employers and of labor organizations which will seek to promote trade agreements wherever practicable, to form local boards of conciliation and arbitration and to conduct an educational campaign looking to the creation of a national board for the same purpose. In a circular address the conference recommended that employers and wage-earners should enter into annual or semi-annual agreements or contracts, and that all industries in the United States should establish boards of conciliation within the several interests to which differences and disputes between employer and employee may be referred for settlement. The conference recognized the fact that compulsory arbitration, aside from all other objections urged against it, is not at this time a question of practical industrial reform.

Strikes are generally the most wasteful occupation to which labor may commit itself. They mean temporary or permanent loss, both to employer and employee. Hundreds of thousands of dollars not paid in wages during a strike or contributed from organization funds in support of strikers are just so much dead loss, and a loss falling upon individuals who can afford it less easily than can the employers stand the embarrassment resulting from a lockout

or strike. In addition, a strike in one portion of the country affecting a general industry not infrequently, in this age of sharp struggle for the mastery or for mere holding one's own, gives competitors elsewhere undue advantage, resulting in a crippling of the energies where the strike prevails or a collapse of industry there, to the detriment, most of all, of wage-earners. It is to their interest, therefore, that a less expensive plan should be devised for the settlement of disputes, which may hardly be avoided under existing industrial conditions.

Compulsory arbitration is in its very origin to be opposed. A potent argument against it, and one that should be entirely convincing, is that it is favored by politicians. Few schemes presumably for the benefit of labor favored by politicians are not the most expensive ones that could be advanced. They carry with them the waste of demagoguery and the expense of supporting unnecessary officeholders, upon which politicians thrive. When, too, the principle of the right of authorities, national, State or municipal, to interfere between employers and employees is generally recognized, the fundamental American principle of the right of private contract is strenuously assailed, and the personal liberty of labor is sharply menaced.

Labor does not want compulsory arbitration, but in voluntary conciliation, in the free organization of self-acting machinery for frank intercourse of representatives of labor and capital, labor has its best chance of healthy advance. The suggestions of the Civic Federation ought to help along the good cause.

Struggle in Combination.

Anxiety shown by other great leaders in the steel trade of the United States over the report that Andrew Carnegie may erect a tube plant at Conneaut, Ohio, is another point to be considered by nervous individuals who really believe that any industrial combination involving the human element will be permitted to dominate absolutely. A year ago a casual observer might have readily imagined that concentration in the steel industry had about reached its limits, and that it was impossible for any successful attempt to be made against the combination. But what has happened before seems about to happen again. As long as capital may be controlled by the brain, so long will no man or group of men be allowed to enjoy uninterruptedly the fruits of their far-reaching plans. It is only a question of time for a stronger man or a stronger combination to face them with greater capital and with more improved methods. So the evolution continues, to the ultimate advantage of all, even though some will be left behind or wrecked in the struggle.

Almed Against Industry.

At a hearing last week before the Senate committee on agriculture, which has charge of the Grout anti-oleomargarine bill, Mr. D. A. Tompkins of Charlotte, N. C., is reported to have explained some of the interests of the cottonseed-oil men in the measure, and to have stated that the destruction of the oleomargarine business would mean a serious loss to them, as about 200,000 barrels of refined cottonseed oil are used annually in the manufacture of oleomargarine, with the demand increasing. This testimony shows the direct interest of all the cotton-growers in the defeat of the Grout bill. There

are thousands of them, while the individuals interested in the special legislation directed against a flourishing industry, constantly becoming more necessary, are few and far between. That ought to be a sufficient argument to kill the bill.

THE CHARLESTON EXPOSITION.

Active Work to Secure Governmental Co-operation.

[Charleston News and Courier.]

Charleston has a great many friends in this country who are just now manifesting a very lively interest in the success of the exposition, which means so much for the South and the country. Senator Tillman had the bill making an appropriation of \$250,000 for a government building and government exhibit at the exposition passed by the Senate without question, and the members of the House from this State are all doing what they can to put the measure through the House. The bill is in the hands of Mr. Elliott, and he is fortunate in having the solid support of the home delegation.

Mr. Latimer, the representative from the third district, is particularly active in his work for the bill, and we are assured by our Washington correspondent that he is striking some very effective lies. Through his efforts the support of the Secretary of Agriculture has been secured for the enterprise, as will be seen by the letter from Mr. Wilson to Congressman Latimer, which we print today. At the meeting of the Cabinet last Tuesday Mr. Wilson brought the exposition to the attention of the President and his advisers, and it is said that the President and his Cabinet all expressed the deepest interest in the undertaking, and indicated their willingness to further its success in every reasonable manner. Mr. Wilson sincerely hopes that the House will concur in the appropriation of \$250,000 provided in the Senate bill, "as the great industrial awakening of the South along agricultural lines will be accelerated very much by the holding of this exposition, and having the federal government take an interest in it." "It is natural for me," says Mr. Wilson, "to incline to help people who I see are vigorously trying to help themselves." The sort of work that Mr. Latimer is doing is the sort of work that Mr. Tillman has done in the Senate, and the sort of work that is necessary to the success of this measure or any other intended for the public good.

The developments in the exposition enterprise show that Charleston has a great many friends in this blessed country who are willing to give her a helping hand. Like Mr. Wilson, they, too, are inclined to help people who are "vigorously trying to help themselves." Railroad presidents, trust companies that are largely interested in Southern securities, commercial bodies that are on the lookout for new markets, newspapers all over the country, that are always foremost in advocating deserving enterprises, have been interesting themselves in the exposition bill now before the House. They believe that it is important for the whole country that the United States should be well represented at the South Carolina Interstate and West Indian Exposition, and, influenced by the broadest public spirit, they ask that Congress shall place the seal of its approval upon this project, which will lead to the development of larger markets for our manufactured goods and raw materials and bring into this country millions of dollars of outside capital for investment.

We are permitted to print today a strong letter from Mr. Richard H. Edmonds, editor and general manager of the

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TEXAS ON A CASH BASIS.

Evidences of Prosperity in All Directions in the Great Southwestern State.

[Special Correspondence Manufacturers' Record.]

Dallas, Texas, January 12.

Baltimore Manufacturers' Record, to the Hon. Frank C. Wachter, a member of Congress from Maryland, urging him to give his most active support to the exposition bill. Mr. Edmonds has devoted himself and his fine paper without stint to the creation of new conditions in the South, and there is none better informed as to the marvelous material wealth of this part of the country, and of the unlimited opportunities presented in the South for the profitable employment of capital and the successful prosecution of industrial enterprise. It was William D. Kelly who said fifteen years ago that "the development of the South means the enrichment of the nation," and this truth is made the text of Mr. Edmonds' letter to Mr. Wachter. Speaking to his subject Mr. Edmonds says:

"With such an unlimited field for expansion, for the development of trade, of manufactures and of foreign commerce, every legitimate aid which the national government can give, as in the proposed government exhibit at Charleston, is of national concern. A vote for this is not simply a vote for the South, but a vote for the whole country."

The argument is all on the side of the exposition and its effect upon the material prosperity of the country. And with all the help that has come to us and the response that is everywhere made to any request for co-operation, there ought to be united effort on the part of our own people to promote the interests of the exposition in every practicable way. Among the distinguished men who accompanied Mr. Gilbert to Charleston when the cornerstone of the administration building was laid was Mr. W. H. Boardman, editor of the Railroad Gazette, who says in a letter to the editor of the News and Courier, received yesterday: "I was very much impressed with the business opportunities in Charleston. I do not know of a place in the United States where an investment of energy and skill and money is so sure of a return as it is there." The exposition will give Charleston the opportunity it has been hoping for, and this opportunity neglected, it will never come again.

Somerset Is Alert.

[Special Cor. Manufacturers' Record.]

Somerset, Ky., January 11.

The citizens of Somerset and of Pulaski county are very enthusiastic over the proposed Burgin and Jellico extension of the Southern Railway. This road, when built, will pass through forty or fifty miles of Pulaski county, and open up the very finest timber and mineral part of the county. It is thought the final survey of the road will include Somerset, and by some it is thought that the road will be built from Somerset to Jellico instead of Burgin to Jellico. The latter view is the reasonable one, especially in case the Southern gets an extension of lease from the city of Cincinnati on the Cincinnati Southern.

The Standard Oil Co., which has recently purchased the Oxley Stave Works, is figuring on the building of the cooperage plant at this place. The development of the Wayne county and Northern Tennessee oil fields is progressing rapidly, and the Standard Oil Co. will in the early spring extend the pipe line from the Wayne county field to Fentress county, Tennessee. This will make Somerset the terminus of the Kentucky and Tennessee oil fields. Several woodworking establishments are corresponding with the Commercial Club of this city, with a view to locating plants at this place.

The value of exports from New Orleans in December was \$19,234,372.

Great is Texas, and as impressively great is the marvelous prosperity which has been poured into her cup this year, pressed down and full to overflowing. Think of the price of a bale of cotton, \$15 at least, for every man, woman and child of the 3,048,710 population which the census man credits to the State for 1900, and then add to the wealth from the cotton crop the millions for cattle, for other farm products, for fruits, for minerals, for timber and for manufactures, and you can begin to understand why this prodigious empire blossoms as the rose, and why everyone, down to the lowly cotton picker, is well-nigh literally rolling in wealth.

Perhaps I should modify the adjectives in the matter of cotton picker, for even he is a capitalist now. Erstwhile domestics and roustabouts have come out of the cotton patches the possessors of \$25 weekly earnings, and I have even heard of one family of whites, parents and six children, who have cleaned up \$1200 in hard cash as the result of the season's cotton picking. They just moved in last fall, and with this clean-up they will buy them a farm of 100 acres, and with the fruits of one short season's labor start out where some farmers have ended after many years of tedious toil.

A recently-returned New Yorker has aired his views in the Eastern papers to the effect that the South is intoxicated with its wealth, and that the result will be a reign of wild and harmful extravagance. In answer to this it may be stated that the banks of Dallas have deposits of more than \$12,000,000, and all the banking institutions of the State report a like condition of plethora. And in resentment of the sneerful visitor's suggestion it has been remarked that there are not a few of the Southerners who have become quite familiar with the touch of a hundred-dollar bill, and who are just as likely to turn it to a good account as their Eastern brethren.

Indeed, the basis of this widespread prosperity is so broad it is evident there would have been "good times" in Texas without the incident of 10-cent cotton. Of course, the surplus wealth from this big crop has been as an infusion of rich blood into the arteries of commerce, but Texas is on the up-grade in everything, and development has occurred in so many directions that various elements have entered into the success which is now hers. The lesson of diversification in crops has been well learned by the farmers here as elsewhere throughout the South, and he now has hogs and cattle not only for his own use, but to sell to local packers, who have located here for supplies instead of to find a market for their products. Wheat is raised in Texas of so fine a quality that its flour takes the blue ribbon not only at American expositions, but at the great exposition of Paris, France, competing with the world. The corn crop of Texas has added enormously to her wealth, and the value of her other farm products has been of increasing importance.

In stock-raising there has been a marvelous change. The Texas steer, wild-eyed and built like a Kentucky racehorse, with a stretch of sometimes six feet between the tips of his great horns, giving verisimilitude to the current aphorism that you could pack the meat of his gaunt form inside his spacious horns, roams the plains no more, and is only found in in-

frequent sequestered herds, where he is propagated as a curiosity and to contrast the Texas cattle of today with those of hardly more than yesterday. The days of free grass and open land have passed away, but out in the western part of Texas, the rich grazing lands once known as the staked plains, there are enormous herds of cattle still, but they are big and fat and sleek, and spring calves of that breed are sold the fall before for \$25, to be paid as soon as they are born. A man in Dallas, who owns one of the big West Texas ranches, paid \$5000 for a Hereford bull at a sale at Kansas City, and a recent visitor to the Panhandle tells how he saw thousands of this superb white-faced breed, and in their sleekness they were indistinguishable one from the other. "A Texas steer" is no longer an opprobrious epithet.

The mustang, the original Texas pony, has gone the way of the "long horn," and in his place are big capable work horses and such fine mules that they are in great demand for shipment to foreign countries. The Mexican sheep has also disappeared, and the raising of fine breeds has become a big industry. In Southwest Texas sheep ranches and great flocks are numerous, and elsewhere there are many farmers who have flocks of varying sizes, and as they thrive on the weeds to be found on the lands where they abound and the climate is extremely favorable for them, sheep-raising, either as an occupation or as a small side issue, comes to be a matter of little trouble and good profit.

Speaking generally, and after the manner of Caesar, all Texas is divisible into three parts. The eastern part, which extends 100 miles or so west from the border, from the north towards the coast, is broken and hilly, and here are vast forests of long-leaf pine, while the streams are lined with heavy growths of oak, hickory and other hardwoods. From the hill country to the plains is the wide stretch of rolling prairie, containing as rich soil as the world knows, where commercial fertilizers are never used, and where, outside of the coast country, the greatest development has occurred. Although there is fine iron ore in the hills and good coal and splendid granite and all kinds of merchantable wood, and although there are numerous cotton mills, some woolen mills, at least one big furniture factory and various kinds of industries throughout the State, yet the development has been as yet largely along the line of agriculture, a fact which is demonstrated by the standing of Dallas as the greatest distributing point for agricultural implements, save possibly one, on the continent or in the world. The prosperity of the State is at present due to its agriculture. Industries in great number are yet to come, but that they will inevitably come conditions conclusively prove.

For instance, Dallas holds a commanding place in the manufacture and sale of saddles, horse-collars and harness, and yet there is hardly a tannery in the State of any pretensions. The cannigre plant, full of tannic acid and an excellent substitute for oak bark, is successfully grown in Texas. Thousands of hides are shipped green out of the State every week, to be tanned elsewhere and brought back as leather. Here is one field which will not always remain unoccupied. Then there will be furniture factories and woodworking establishments in large number here

one day, and those who sell agricultural implements will discover that heavy and bulky machines may with advantage be constructed at home out of the materials which are lying at the very doors of the Texans.

Of course, there will be a large increase in the number of cotton mills, for all of those now in operation are doing well, and the 3,000,000 odd bales of cotton which Texas raises in a year will not always be so largely shipped out of the State and out of the country. Only in oil mills does there seem to be anything like an occupation of the field. About every city has one or more good cottonseed-oil mills, with benefits incalculable to the communities.

The western portion of the State, roughly bounded by a line extending south from the eastern border of the Panhandle, is composed of hills, mountains and tablelands, and although it is declared to be rich in agricultural possibilities, particularly as a wheat country, it is now devoted almost exclusively to the grazing of cattle, and as it yields a rich return, thus it is probable that it will continue so for some time to come.

One conspicuous development of recent years is the rice industry of Texas. Only a few years ago upland rice-growing was unheard of in this country, but now Southeast Texas has over 100,000 acres in rice, and as the whole coast country for some sixty miles back, as far west as the Colorado river, seems to be adapted to rice-growing, it is declared that the growth of the industry will be limited only by the seed available and the construction of irrigating canals.

Much of the coast country is also ideally adapted to the raising of pears and small fruits, berries, vegetables and melons, being below the frost line as a rule, and already this industry has developed to a position of commercial importance.

The sugar industry has attained some importance along the coast, and a paper mill is successfully using for pulp the bagasse or stalk from which the sugar has been extracted.

In Trinity and some other counties experiments made with tobacco have demonstrated that a good imitation of the Cuban leaf can be raised, and tobacco-raising on a large scale is contemplated.

Of the great strike of oil at Corsicana much has been said, and the prosperity which has come to that little town through the sinking of its hundreds of wells is a somewhat familiar story. And now Beaumont comes to the front with a regular gusher, and an oil fever has followed the recent big strike there. Natural gas is present in large quantities at Corsicana, and there are indications of it in the Beaumont district. As it has been considered for some time that oil exists in various parts of Texas, it is likely that a big development in this field will soon occur.

Immense salt deposits have been found in some parts of the State, and are being worked on a commercial scale.

And Texas is coming to the front as a health resort, too. Down at Marlin, on the Houston & Texas Central, there is a spring where the water comes out of the ground 147 degrees hot, and there are numerous other springs in various parts of the State whose waters possess rare curative properties. One of them, called Mineral Wells, on the line of the Texas & Pacific, is even referred to nowadays as "the Carlsbad of America."

ALBERT PHENIX.

The Richmond (Va.) Chamber of Commerce has elected Messrs. L. Z. Morris, president; H. L. Cabell and Henry Lee Valentine, vice-presidents; John H. Montague, treasurer, and R. A. Dunlop, secretary.

DALLAS IS DETERMINED.**Reaching Out for Increase in Its Industries.**

[Special Cor. Manufacturers' Record.]

Dallas, Texas, January 12.

"Were I restricted to the choice of but one location in the Southwest," said the representative of a large New England machinery house, "I should not hesitate to select Dallas. Its situation geographically, its prestige as the metropolis of a marvelously rich district and its transportation facilities already secured give it advantages which no other city in this section can ever enjoy."

Dallas is a well-built city of 65,000 people (including suburbs). It has asphalted streets and office buildings, and a hotel which would not look mean in any city. It is the second largest distributor of agricultural implements in the country, and many of the large Northern houses have bought ground and put up their own big warehouses and office buildings here. It has five trunk-line railroads, giving it ten outlets in all directions and making it look on the map like the hub of a wagon-wheel, and it is going to have water transportation to the Gulf via the Trinity river. Its postal receipts, an unerring barometer of the city's business, are double those of any two cities in the State. It makes and distributes more saddles and harness than any city in the South. It is the greatest jobbing center in the Southwest, doing an annual business in groceries, dry goods, boots, shoes and produce of over \$35,000,000. It has a thriving cotton mill of 14,000 spindles and 300 looms. It has three cotton-gin factories, a million-bushel elevator, besides several smaller ones; three big compresses, two large flouring mills, two oil mills, two packing-houses, three large sash and door factories and other smaller industries, numbering in all some 200 factories, employing about 3500 hands.

Dallas merchants and manufacturers ship their goods all over this State and adjoining States and Territories, and even into Mexico, but were they restricted to a territory comprising but forty out of the 243 counties of the State, these forty counties being placed within the territory 100 miles surrounding Dallas, they would have in the "Dallas territory" 810 towns, nearly 40 per cent. of the population of the entire State, 32 per cent. of the assessed values of the State, 62 per cent. of the business houses of the entire State, 33½ per cent. of the cotton produced in the State, or about one-ninth of the product of the United States; 65 per cent. of the wheat, 32 per cent. of the corn and 55 per cent. of the oats produced in the entire State. This to show what a wonderfully rich country is immediately contiguous to Dallas, and what a substantial basis there is for a big city at this point, even if Dallas were content to drift along with conditions as they are.

But this is too wide-awake a town to "let well enough alone," and the enterprising citizens, under the leadership of the active Commercial Club, have taken a step whose results must prove of incalculable advantage to Dallas. After much agitation of the subject an appropriation of \$750,000 for the preliminary work of improving the Trinity river from Dallas to the Gulf has been placed in the river and harbor bill by the committee, and as its acceptance by Congress is therefore altogether likely, the work of giving the river four to six-foot navigation is expected to be commenced by next fall. The whole matter has been made the subject of an exhaustive report by the chief of engineers, United States Army, and the great advantage of the proposed improvement is clearly demonstrated. With

water transportation Dallas would become a basing point for freight rates, enabling her to outclass all competitors in this territory, and it is estimated that the consequent saving in freight rates to the people of Northern and Eastern Texas would amount to about \$10,000,000 annually.

And here will occur the great opportunity of Dallas to secure many large factories. There are outcroppings of coal for 200 miles down the Trinity; there are 2,000,000 acres of fine timber, hardwood and pine, along the banks of the river; for eighty miles along the river there are large deposits of brown hematite and laminated iron ores, carrying about 5,000,000 tons to the square mile. All these raw materials may be loaded on the boats and hauled to Dallas at a nominal cost, and with the reduced freight rates there will be great opportunities for the manufacture of furniture and other wooden products, for iron industries and manufactures of machinery, farming implements, wagons, etc. With a half-dozen large saddle factories here, stocks are depleted, and traveling men have been called in because materials cannot be secured fast enough. The implement houses report the same conditions. Given water transportation and a chance to compete in every town with the factories of the North and East, and there will spring up in Dallas scores of the most important manufacturing cities, and, in addition to being one of the greatest jobbing centers, Dallas will become known as about the busiest manufacturing city in the entire South.

ALBERT PHENIX.

CHARLOTTE'S INDUSTRIES.**Two Cotton-Factory Settlements to Be Created.**

[Special Cor. Manufacturers' Record.]

Charlotte, N. C., January 15.

The early spring will see work actively in progress on the building of two new cotton-factory settlements at Charlotte, one by a company with Mr. R. M. Miller, Jr., at the head, and the other by a company organized by Messrs. E. A. Smith and J. P. Wilson. It is significant that both factories will manufacture the finer grades of goods.

Work on Messrs. Smith and Wilson's mill, which has been named the Chadwick, in honor of the late H. S. Chadwick, who had much to do with giving Charlotte its industrial impetus, is already in progress. The location is two miles northwest of the city, where an abundant water supply is available. The members of the company, in addition to the two named, are George W. Bain of New York, H. W. Clark of Charlotte and F. Dilling of Kings Mountain. The capital stock is \$250,000. The mill will operate 10,000 spindles and 300 looms. It will manufacture yarns in numbers from 40s to 50s.

The Miller's mill, which will be known as the Elizabeth, will be located two miles to the west of the city. The capital stock will be \$100,000, with privilege of increasing to \$300,000. It will operate 5000 spindles and 3000 twiststers to make two-ply yarns from 40s to 60s, both combed and carded, and it is the plan to add a mercerizing plant. The construction and equipment of this mill will simply be of the very best in every detail. The tenement-houses will be supplied with electric lights, water and sewerage, which is a new departure in Southern mill construction.

The building of these two cotton mills will bring the number in Charlotte up to fourteen, with an investment of over \$2,000,000. Already 76,000 spindles, 1500 looms and 150 knitting machines are in operation in this city, giving employment

to 2200 operatives. This is exclusive of the five clothing factories that employ 1600 operatives. All the textile plants are having a prosperous business, and the Louise Mill is now completing a building by which its capacity will be doubled.

There is much activity in other industrial lines in the city, the most important of which is the building of a new plant by the D. A. Tompkins Company for the manufacture of cottonseed-oil mills and cotton-mill machinery and supplies. The plant will be located on the line of the Southern Railway, in proximity to the Atherton mill property, on both sides of the Dilworth boulevard. This move was made necessary by the increasing business of the company, which required enlarged workshops. The plot of the grounds and design of the buildings as drawn by Mr. Tompkins show a veritable little manufacturing city in itself.

Nearly and on the same line of railway Dowd & King have bought a site for a manufacturing plant to turn out heating apparatus and plumbers' supplies. Work on their factory buildings will commence at once. They will manufacture complete plumbing equipments and the best system of heating supplies, and will travel salesmen throughout the Southern States. This firm has been in the plumbing business for several years, and finally concluded to manufacture supplies here instead of having to order them from the North. It is an entirely new departure, and a most important addition to the diversified industries of Charlotte, which are now assuming noteworthy proportions.

It might be well to enumerate the list just here. Outside of the fourteen cotton mills and five clothing factories, the industrial directory of Charlotte shows four machine shops and foundries, three cotton gins, one tannery, two harness factories, two cotton-oil mills, two batting mills, one sash-cord mill, one backband factory, one roller flour mill, one ice factory, one bed-spring factory, one belt factory, one rubber-tire factory, one bicycle factory, four printing houses, three bottling works, two broom factories, three candy factories, one card-cloth and loom-reed factory, one emery-fillet and loom-reed factory, two cigar factories, three steam laundries, one monument shop, one coffin factory, four iron works, one roof and paving plant, one showcase factory, one factory for the manufacture of wagons and farming implements, two roller-covering shops, one shuttle-block factory, one sash, door and blind factory, one cold-storage warehouse, two bonded cotton warehouses.

No account is made in this list of mill and electrical supply houses, of which there are a dozen. The bicycle factory is a newly-established plant founded by Geo. V. Kellar, who was for a long time Southern sales agent for the Relay Bicycle Co. of Reading, Pa., and who bought the patents and material for the wheels manufactured by that company. The American Knitting Machine Co. has just opened a branch house in Charlotte, and has six machines in operation.

Charlotte is one of the best examples of the modern mill town to be found in the South. Some other towns are close behind it. A tabulated statement prepared by this writer last December shows that the industrial plants and freight depots disburse \$1,360,000 in wages annually, the great bulk of which is spent in the city. This army of wage-earners is constantly increasing with the continued development of industrial enterprises, and herein is the explanation of Charlotte's growth in population from 11,000 in 1890 to 27,752 in 1900. The city enters upon the first year of the new century with bright prospects. There will be a very substan-

tial addition to its manufacturing plants as well as to its roll of population before the close of the year.

Today the Piedmont Realty Co., of which H. C. Abbott is secretary and George Stephens treasurer, bought a site for an eight-story office building to cost \$60,000. It will be known as the Realty Building, and will be located between the Piedmont Insurance Co.'s building and the Four C's office building. Contractors and supply men can get information from Abbott & Stephens.

The Southern Loan & Savings Bank Co. was also organized here today, with a capital stock of \$100,000. R. A. Dunn, P. M. Brown, W. S. Alexander and C. M. Carson are the organizers. This means a new and handsome bank building for the city.

WADE H. HARRIS.

NO ROOM FOR PESSIMISTS.**Manufactures and Business at Birmingham on the Up-Grade.**

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., January 15.

The year opens auspiciously for iron, inasmuch as the reports of prospective business continue to be of the most encouraging character. The market for iron the past week showed an improvement both in inquiry and transactions, while the price was kept very steady. The demand was for both foundry and mill irons, with the former leading as to quantity. Some few lots of 1000 tons each were sold, but as a rule orders for smaller lots prevailed. The feature of the market that is encouraging to sellers is the fact that they are now able to place iron on Eastern orders. During the slump in prices the Pennsylvania and Virginia furnaces stood between us and made selling figures that our furnaces would not meet, and monopolized that trade. Now things are again evening up, and inquiry from that source is renewed, resulting in some business. One lot of 1000 tons was taken by an Eastern firm at \$11 for No. 2 foundry, 500 tons to be shipped immediately. There were several important inquiries on the market, but they resulted in no business, as buyers found they could not dictate prices. It is conservative to say the market is exciting a growing interest, and all interests here are anticipating an increased trade. Some No. 1 foundry sold at \$12.25, but not in important lots. There are some who are well sold up on No. 2 foundry that are holding for \$11.50, while from the majority it can be obtained at \$11.25. For round lots, as indicated above, it can be had at \$11. Some No. 2 soft went at \$11. No. 3, according to regular difference, should be \$10.50, but it could probably be had at \$10.25. Gray forge is quoted at \$10, but there is good evidence that it sold at \$9.75, and even \$9.50 is the price given at which some was sold. Your correspondent can neither affirm nor deny this charge, though inclined to believe it. A good deal of low-grade iron has been made, and the policy is to not let the iron rust in the furnace yards. At the close of the week one seller was figuring on various lots aggregating 10,000 tons, and indifferent as to sales.

It is gratifying to record the fact that the business offering to the steel mill is increasing, and it is a matter of regret to state that much of it has to be declined because of inability to make required deliveries. Last week the mill declined orders for 30,000 tons on this account. It is not in operation to full capacity. If it was it would have all the business it could care for.

The trade in merchant iron has picked up very much, and the advance of \$1 per ton has caused no diminution in demand.

The rolling mill management is very optimistic as to the future.

The Dimmick Pipe Works is overrun with business. It has orders from the Pacific and the Atlantic coasts, from the Western and the Southern sections. They have crossed the border line and have captured business in Mexico, and have an ambition to expand their trade to wherever profit invites and the flag protects it.

The expansion of business is noted in the additions to various shops of shed room and in the extension of shop room. No better evidence than this could be given of prosperous business. It indicates a balance-sheet carrying profits.

The furnace capacity of the district will soon be increased by the blowing in of the Gadsden furnace. The Talladega furnace will follow suit. Immediately around Birmingham, unless the unexpected happens, there is small probability of increased output. You always hear of the furnace put in blast, but not always of the one put out of blast, and it is almost always the case that when one goes in blast another goes out.

Several months ago the subject of the utilization of the furnace slag to commercial uses was mentioned in these letters, and the prediction was then made that it would be eventually a source of profit. Since then it has become the basic element in the manufacture of cement. Now comes the discoverer of a process for using it as a base in the manufacture of a commercial fertilizer, which will bear the name of brainite. In conversation with the owner of the process your correspondent was informed that it had successfully stood the most crucial tests, and that New York capital was backing the enterprise. They are here to select a site, to organize a local company as an act of formality and to make arrangements for obtaining the furnace slag. These perfected, they propose to erect a plant which, completed, will cost \$1,000,000, employ 300 workmen and turn out daily 500 tons of fertilizers. They propose to be ready for the crops of 1902. Each plant will make its own acids to combine with the slag. The first plant erected will be at this point, to be followed by duplicate plants at Sparrow's Point, Md.; Copley, Pa.; Chattanooga, Tenn.; Iron Mountain, Mo., and some point not yet selected on the Pacific coast.

Affairs at Ensley continue active. Every building contractor has his hands full. Every dealer in building material has a picnic of orders. Every mechanic and every laborer wanting employment gets it for the asking.

The demand for houses continues unabated, and the man who builds to rent has his choice of tenants. The improvements going on there are simply prodigious. Birmingham as a municipality has caught the fever, and besides engaging in the erection of a new \$250,000 city hall and new schoolhouses, proposes to expend next year \$750,000 in improving streets already made and in the extension of others that will develop property and increase values and swell the tax returns. The combined State, county and city taxes are now 2.2 per cent.

Every line of business, every phase of industrial development and enterprise are on the up-grade.

The outlook is so fine for continuous progress that the pessimist is crowded out of his usual place in the ranks and sees it usurped by his optimistic rival.

Confidence permeates all classes, and no one now has any doubts as to the great future in store for this district.

J. M. K.

During the past year the assessed value of real estate in Virginia has increased by \$13,526,775.

The Pig-Iron Market.

Matthew Addy & Co. in their iron market report say:

"The principal feature of today's market is the number of large inquiries on which sellers are figuring. These inquiries are not confined to any one branch of trade or to any one section of the country, and they call for all kinds of iron. The most notable inquiries, however, are from the agricultural-implement makers.

"The actual business of the week has been very satisfactory, having been made up of many small transactions, whose total aggregate has been considerable. This business has been wonderfully well scattered. As we get further along into the season it is evident that consumers have very little iron on hand; in fact, their stocks are of the most insignificant kind, and the great majority of them will be forced to buy again within the next sixty days.

"In the South there is quite a shortage of soft irons, and these grades are in particular demand.

"The request to hurry shipments on current orders is as pressing as ever."

PHASES OF STEAM TURBINES.

Mr. Francis Hodgkinson's Paper Before the Western Pennsylvania Engineers.

At the last meeting of the Engineers' Society of Western Pennsylvania Mr. Francis Hodgkinson read a paper on steam turbines, which is a valuable contribution to the discussion of one of the most interesting and instructive branches of steam engineering. The author of the paper is a leading authority on the subject, as he was intimately identified with the development of the turbine in England, and since 1896, in which year Mr. Westinghouse acquired the American patent rights of the Parsons steam turbine, he has been employed by the Westinghouse Machine Co. to carry on the advancement of the machine. In his paper Mr. Hodgkinson traced the history of steam engineering, divided steam turbines into three classes—impact, of which Bianca's is an example; reaction, of which Hero's is an example, and a combination of these, of which Parsons' is an example—and dealt only with two of these, namely, the Parsons and the De Laval. Dwelling particularly upon the Parsons turbine and the mechanism to work the relay valve and overcome the inertia of the levers, Mr. Hodgkinson said:

"These features are particularly valuable. So long as a piece of mechanism is continuously working we at least know that it is in a condition to continue working, and is not stuck. There is absolutely no variation of angular velocity in the turbine; hence the value of turbine for running alternators in multiple. This can be realized when we know that a 500-horse-power turbine will run twenty minutes after the throttle has been closed. This, of course, speaks well for the low friction, but is principally due to the tremendous flywheel effect of the shaft. All the power is transmitted rotatively; there are substantially no reciprocating parts and no vibrations; hence no costly foundation and no holding-down bolts are necessary. Mr. Parsons made very successful use of an electrical governor, which was attached to a relay valve."

"The essential parts of the turbine are, of course, the blades and buckets. They are made of hard drawn material. They vary in size from one-half inch to seven inches, according to where they may be used. Every row of these blades has passages of increased area corresponding with the volume of the steam. This in-

crease of volume is obtained by increasing the heights of the blades, and when these have reached the desired limit the diameter of the turbine is increased and the steam permitted a higher velocity that enables the blades to recommence another progression. Considering one barrel of the turbine, the fall of pressure, or, to be more exact, the co-efficients of expansion, are the same for every row. The moving blades receive motion from two causes, the one due to the impact of steam striking them, the other due to the reaction of the steam leaving them, and in this respect is this turbine a combination of Bianca's wheel and Hero's engine. Many people suppose that these blades wear under the action of steam. Experience shows that they do not. In the Parsons turbine the velocities of steam never exceed 500 to 600 feet per second, and for the most part are considerably less than this. The blades are secured by caulking. Experiments show that the pull necessary to pull them out is as much as the elastic limit of the material of the blades themselves. The strain to which they are subjected in practice is about one-fortieth of this amount. Danger of the blades colliding sideways is very remote. The smallest blades have one-eighth-inch clearance sideways, and the largest as much as one-half inch. These dimensions are far beyond the limits of lateral motion permitted by the balance pistons. Of course, accidents do happen to the blades, but are generally attributable to carelessness, such as the machine having been taken apart, and, in handling, some of the blades damaged, the machine being again assembled without having the damage repaired. The result of this, however, is less serious than would be expected. At the most two or three rows are ripped out. The blades are very tough, and the first broken blades close up the passage in the succeeding guide blades and prevent the broken pieces passing and causing more damage.

"In the event of such an accident the damaged blades may be removed and the machine put into service, when full power can be developed, but, of course, at a somewhat less efficiency, according to the number of rows missing. The blades may be permanently repaired in a very short time by chipping out the grooves and inserting new blades. This work can be done wherever the machine may be in service, as no special machine work is necessary. Such accidents, however, are among the improbabilities.

"It may be interesting to record the actual pressure exerted on individual blades in a turbine. Take, for example, one of 300-kilowatt capacity, to which special reference will be made. There are altogether 31,073 blades in the turbine, of which 16,095 are moving blades. The pressure that each of them exerts in revolving the shaft varies from .89 to 1.04 ounces.

"The steam inlet is always provided with a steam strainer, which is intended to prevent foreign substances from getting into the turbine by means of the steam pipe. Generally such things as nuts, bolts, monkey-wrenches, etc., as have occasionally been known to come through a steam pipe, cause practically no damage, because they cannot pass the first row of guide blades. The greatest inconvenience of this nature is small pieces of gasket choking up the guide-blade passages, which appreciably brings down the power.

"As has already been stated, a jet of steam issuing through a properly-constructed orifice has as much energy as the same steam performing high ratios of expansion behind a piston. In both cases the work to be theoretically abstracted

from a given weight is the same; however, there are some practical reasons for expecting better results in the case of the turbine.

"In the design of a three or four-stage compound condensing reciprocating engine it is found that there is no gain in economy by expanding the steam in the low-pressure cylinder beyond a terminal pressure of about five or six pounds absolute. To do so means very much increasing the volume of the low-pressure cylinder, thus increasing the friction of the engine and the weight of the reciprocating parts. Moreover, the temperature of saturated steam, as these low pressures are reached, falls off much more rapidly; hence there are greater losses, due to condensation and re-evaporation, than would be gained by a more complete expansion. In the steam turbine no such limits exist. The extra volume of the low-pressure end does not add to the friction. The temperature conditions from end to end remain always the same, and hence such losses as condensation and re-evaporation are not in evidence.

"Turbines are constructed to utilize the energy of the steam down to the utmost limits. A condensing steam turbine, when in operation, affords a striking example of the conversion of heat into energy. The temperature of the walls of the cylinder at the high-pressure end, about 365° F., falls in the distance of three or four feet to a temperature of about 126° at the low-pressure end."

"The practical efficiency of a turbine power plant may be gathered by some tests made by the Westinghouse Air Brake Co. After the plant had been installed some nine months the whole plant was shut down and the steam engines which had been previously doing the work were connected up again, put in service and were kept running a week, during which time careful measurements were taken of fuel and water. After this the turbine plant was again put in operation and similar measurements made with the electrical transmission. The saving in coal averaged 35.7 per cent. during the day and 36.4 per cent. during the night in favor of the turbines. The saving in feed water averaged 29.8 per cent. during the day and 41.4 per cent. during the night. In round numbers, this means a saving of 40,000 pounds of coal in twenty-four hours. The gain is in a great measure due to the economy of the turbines, but also to some extent to the elimination of the condensation in long lengths of steam pipe, and to the advantages of electrical transmission."

"The applications of steam turbines are perhaps not so universal as ordinary steam engines. They are pre-eminently suitable for driving electrical machinery, particularly alternating-current dynamos. Some difficulties are, however, experienced with the commutation of continuous-current generators of fairly large powers.

"There is nothing remarkable in the design of generators for this purpose except that modification necessitated by the high speed. For this reason they are remarkable for their small weight and dimensions and the absence of crowded pole pieces.

"Builders of electrical machinery have for some years been working in the direction of reducing speeds from the old belt-driven rigs to admit of direct connection to slow-going reciprocating engines. The condition for steam turbines is, however, a step in the reverse direction. Turbines have been used with good success in England for driving fans and blowers.

"Although the type of bearing employed is capable of successfully dealing with about any reasonable error in balance, at

the same time it is very essential that the revolving parts be very accurately balanced, in order that the collector rings and commutators may run true, and that the clearance between the tips of blades and walls of the turbine cylinder may be maintained as fine as possible, so that balancing forms quite an important stage of the construction and has many interesting features. The usual method of balancing, which consists of rolling the piece on some ways and thus locating the heavy side, is sufficiently accurate for ordinary slow-speed work, but no degree of real accuracy can be attained."

"The application lately of steam turbines to marine propulsion is well known. Some particulars of the vessels equipped may be interesting. The first vessel, named the *Turbinia*, was built with a view of exploring the possibilities of turbines for this purpose. It was therefore built as small as possible, and at the same time not so small as to preclude the attainment of high speed should the experiments turn out a success. The dimensions selected, therefore, were 100 feet long, 9 feet beam, 3 feet draught and 44 tons displacement. It will be noted that the ratio of beam to length is unusually small, 9:100, while 10:100 or 11:100 is the more usual practice for this class of boat.

"To begin with, the boat was fitted with one single turbine and propeller. The result was disappointing, the chief trouble being due to cavitations in the propeller, resulting in excessive slip. This was verified by experiments in a tank of water subjected to vacuum. The appearance of the action of the propeller in the water was observed by looking through a slot in a disc which was made to revolve in synchronism with the propeller under observation.

"It was then considered necessary to make several changes. New engines were built in three sections, the steam expanding through them in series, each section driving an independent shaft, and each shaft three propellers. Very soon thirty-two and three-quarters knots were attained, and eventually thirty-four and one-half knots at the naval review at Spithead in 1897. About 2300 I. H. P. were developed. The boiler, a Yarrow type, with small tubes, had 1100 square feet of heating surface and an evaporation of about twenty-eight pounds of water per square foot heating surface at 34½-knot speed. About 600 horse-power were developed per ton of machinery and fifty horse-power per ton of total weight of vessel in full equipment. These successes resulted in a contract with the British Admiralty for a torpedo-boat destroyer named *The Viper*. The dimensions were the same as the 30-knot destroyer of her class, 210 feet long, 21 feet beam and 350 tons displacement. The engines consisted of two independent sets, each consisting of one high-pressure turbine driving a shaft and one low-pressure turbine driving its shaft. On the same shaft as the low pressure was permanently connected a small turbine for reversing purposes. When running ahead the reversing turbine was in connection with the condenser, so that the frictional losses due to this turbine running idle were very small. The same fact applies to the go-ahead turbines when running astern.

"There were, therefore, four propeller shafts, each fitted with two propellers, the one ahead having a slightly lesser pitch than the after ones.

"The Yarrow type boilers have 15,000 square feet heating surface; grate surface, 272 square feet; condensers have 8000 square feet surface. The speed attained was thirty-five knots to begin with, and later 36.858 knots were reached.

"It is generally conceded by engineers that but little more may be anticipated in the development of the reciprocating engine. Any improvement that we can imagine would not very materially improve its efficiency as a heat engine. On the other hand, the turbine is capable of development in many ways, particularly in the use of superheated steam, to a degree hitherto prohibitive, so that the day may not be very far distant when the turbine will replace the reciprocating steam engine for most purposes."

The first annual meeting of the stockholders of the Cooleemee Cotton Mills of Cooleemee Falls, N. C., was held in Durham, N. C., during the week. A change in management was effected. W. A. Erwin is president; B. N. Duke, vice-president, and James H. Webb of Edenton, N. C., secretary-treasurer. Messrs. Erwin and Duke are of Durham, and are largely interested in other Southern mills. The plant is to contain 25,000 spindles and 800 looms, having been built last year, and it is understood that not all of the machinery is in place yet.

The New Iberia (La.) Cotton Mill Co., Limited, has accepted plans for the knitting mill announced last week. The plant will be equipped for manufacturing 300 dozen pairs of underwear daily, the yarns to be purchased for the first year, and after that the company expects to spin its own yarns. E. W. Phillips, superintendent, is now visiting knitting-machinery districts to contract for the machinery.

The Glenn-Lowery Manufacturing Co., Whitmore, S. C., states that the work of constructing its cotton factory is progressing rapidly. The company has a capital of \$500,000, and proposes establishing an industry of from 25,000 to 30,000 spindles, with the proportionate number of looms. As originally announced, this was to be only a 15,000-spindle mill. Operations will probably begin next fall.

The annual meeting of the Sumter (S. C.) Cotton Mills resulted in the declaration of a semi-annual dividend of 4 per cent., and a large amount was credited to surplus account. The \$16,000 worth of machinery purchased last spring was also paid for out of the profits. The latter were shown to be 18¼ per cent. on the capital stock for the year.

It is rumored that the Virginia Mining & Improvement Co., which owns a large tract of land in Augusta and Rockingham counties, is contemplating running a line of railway through its property, connecting with other lines already built, it having by its charter rights full authority for so doing. It is claimed that a line of railway so located would form the shortest connection between Chicago and tidewater.

The report that the Augusta Southern Railway has been sold to representatives of the Southern Railway Co. has been confirmed, according to a dispatch from Augusta, Ga. The line extends from Augusta to Tennille, a distance of eighty-four miles. It has been operated for some time past as a part of the Southern system.

President John Skelton Williams of the Seaboard Air Line announces the appointment of V. E. McBee as vice-president and general manager, succeeding E. St. John, who has resigned. Mr. McBee has been general superintendent of the system.

The sales in the Joplin (Mo.) district during the week ended January 12 amounted to 8,330,330 pounds of zinc ore and 1,139,760 pounds of lead ore, valued in all at \$127,434.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Prospects of the Southern.

A recent issue of the *Statist* refers to the prospects of the Southern Railway Co. in a very complimentary manner. Referring to the extra outlays which the company made for betterments during the year ending June 30 last, amounting to about \$3,000,000, the article states that the cessation of this outlay will probably increase the profit to fully \$6,000,000 annually in the near future, or enough to pay a dividend of 2½ per cent. upon the common stock. The *Statist*, however, believes a considerable reduction can still be effected in the proportion of operating expenses to earnings. Commenting upon President Spencer it says:

"President Spencer of the Southern has earned a reputation for ability, and is expected to do all that is possible to bring the road to a high standard, to reduce transportation expenses, and to develop traffic. By the exertions of the officers of the road a very large number of mills and factories have been located upon the system, and as the advantages of locating mills in the Piedmont district become more widely known a very marked growth in the manufactures and population of the districts contiguous to the Southern is to be looked for. It is, indeed, probable that a much greater percentage of growth in manufactures and population will occur in the States served by the Southern than in any other portion of the United States."

Rolling Stock for B. & O.

It is announced that the Baltimore & Ohio Railroad Co. has determined to add 100 additional locomotives to its rolling stock, and will soon let contracts for them. With this order the company will have contracted for 265 additional engines within eighteen months. In addition to the locomotives, the company also has under contract 2500 box cars, 500 flat cars, 6000 coal cars and twenty-five passenger coaches. The orders are being delivered.

As Mr. John K. Cowen stated some time ago in an interview in the *Manufacturers' Record*, the rolling stock is needed as soon as possible on account of the rapid expansion of freight traffic, although the total outlay for the locomotives and cars referred to will represent over \$11,000,000. It is also reported that the terminals of the company at Baltimore may be considerably enlarged by the construction of several new piers.

May Build to Birmingham.

Some time ago it was reported that the Mobile & Ohio Railroad Co. had under consideration a plan to include Birmingham in its system by building an extension through the Warrior river coal fields. A dispatch from Birmingham states that the plan has been revived and that a road may be built between Birmingham and Blocton, Ala., a distance of thirty miles. It is stated that representatives of the Mobile & Ohio have become interested in the Birmingham, Powderly & Bessemer Railroad with the view of using it for the terminal tracks of the extension, if built.

Want the Western Maryland.

Recently proposals have been made by individuals and syndicates to purchase the interest of the city of Baltimore in the Western Maryland Railroad. It is announced that one of the prospective purchasers is Mr. Edward Lauterbach, who,

it is stated, is acting in connection with the Manhattan Trust Co. Mr. Lauterbach is identified with the project to build a railroad between Baltimore and Drum Point, Md., and the report is current that the desire to purchase the Western Maryland is to connect this line with the proposed line. He has also been interested in the Philadelphia & Reading Railroad, and the opinion has been expressed that he was acting in the interest of this corporation, which desired to use the Western Maryland for an extension to tidewater on Chesapeake bay at Baltimore.

Orders for Locomotives.

The Richmond Locomotive Works has recently secured the contract for fifty locomotives from the Wabash Railroad Co., the value of the contract aggregating about \$600,000. The order includes thirty-four freight locomotives, twelve passenger locomotives and four shifting engines.

The Illinois Central Company has recently placed an order with the Pittsburg Locomotive Works of Pittsburg, Pa., for thirty freight engines, four passenger engines and five switch engines, to be delivered by June 1. The order represents about \$425,000 in value.

New Road in Maryland.

In a letter to the *Manufacturers' Record* Messrs. Jennings Bros. of Lopez, Pa., write that they expect to begin track-laying upon a railroad they are building in Garrett county, Maryland, between Niverton and Bittinger, in the spring. The road is nearly graded, and the necessary equipment has been secured. The line will reach several tracts of timber land owned by this firm, also coal deposits. It is stated that it is intended to open the coal beds, and that saw-mills and other industries will be located along the line.

Nashville to Knoxville.

The first passenger train between the cities of Nashville and Knoxville by way of the Tennessee Central Railroad and connecting lines recently left Nashville, containing the principal officials of the railroad company and prominent citizens of Nashville. The visitors were entertained by the business men of Knoxville. President Baxter of the Central made an address in which he stated that the company expected to complete the road to Knoxville in the near future.

In Good Condition.

At the annual meeting of the Philadelphia, Wilmington & Baltimore Railroad Co. the report for the year ending October 31 showed gross earnings amounting to \$11,325,000 on 670 miles of line. The net earnings amounted to \$3,536,000, an increase of \$382,000, or over 10 per cent., for the year. The gross income for the same period amounted to \$4,065,000, and the net income to \$1,731,000, an increase in the net of \$170,000. The present board of directors was re-elected.

Arrangements Not Completed.

Several reports have been current recently that the Southern Railway Co. has finally determined to build a branch between Burgin, Ky., and Jellico, a distance of 105 miles. In a letter to the *Manufacturers' Record* Mr. W. H. Wells, engineer of construction of the Southern, states that nothing definite has been decided upon as yet and that no final surveys have been made.

Pennsylvania Improvements.

A Philadelphia dispatch announced that the Pennsylvania Railroad Co. will make improvements representing an aggregate

outlay of about \$5,000,000 on its various lines during the present year, following its well-known policy of keeping the system up to the very highest standard. The improvements include a freight-yard at Greenville, N. J., also the elevation of tracks in Newark, N. J., and the elimination of grade crossings in Wilmington, Delaware.

A 30-Mile Extension.

In a letter to the Manufacturers' Record Mr. J. W. Pope, president of the Hawkinsville & Florida Southern Railway Co., writes that work has begun upon the extension of its road from Pitts to Hawkinsville, a distance of about thirty miles. The necessary rails have been secured, and about eight miles of grading have been completed. The company is doing the work with its own force of hands, and expects to complete it by May 1.

To Enter Cincinnati.

The Norfolk & Western Railroad Co. has secured a controlling interest in the Cincinnati, Portsmouth & Virginia Railroad, which will give it an entrance of its own into Cincinnati. The Cincinnati, Portsmouth & Virginia is about 112 miles long and extends from Cincinnati to Sciotoville. At Portsmouth, Ohio, it connects with the Norfolk & Western, with which it has been on intimate terms for some time.

W. H. Wells Promoted.

It is officially announced that Mr. W. H. Wells has been appointed engineer of construction of the Southern Railway Co., with offices at Washington. Mr. Wells has been acting as civil engineer of the company for some time past, and it is understood that the appointment is in the nature of a promotion.

Railroad Notes.

W. E. Gray has been appointed superintendent of the Kansas City Southern Railway Co., succeeding J. A. Edson, who has resigned.

The Atlanta Rapid Transit Co. has begun work upon another electric line in the city, and has recently ordered a number of cars, which will be used on the new as well as the old routes.

M. J. O'Brien, superintendent of the Southern Express Co., has been promoted to the position of assistant general manager. W. S. McFarland has been appointed superintendent.

Recently 2060 carloads of coal were shipped by way of the Knoxville & Ohio Railroad from the East Tennessee mines in one week. This is the largest shipment ever made in the same time in the history of the railroad.

The Chesapeake & Ohio Railway Co. has placed an order with the Carnegie Steel Co. for 8,000 tons of rails, which will be delivered at the rate of 2,000 tons per month. The same company gave an order for 2,500 tons a few months ago.

The Queen Anne's Railroad Co. has decided to construct a pier at Lewes, Del., which will be 675 feet in length. The pier will be used for the terminals of the Queen Anne's Railroad, also for the steamer service between Lewes and Cape May.

N. A. Stedman has been elected president and E. J. Mustain general manager of the Houston & Magnolia Park Railway Co. of Houston, Texas. This is the road which it is reported has been acquired by representatives of the International & Great Northern Railroad Co. to be used as terminals for that line in Houston and its suburbs.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

SOUTH'S GREATEST COTTON MILL.

Columbia, S. C., Has the Largest Single Factory in the United States, and Most Advanced Ideas in Construction and Equipment.

Several conditions which exist in Columbia, S. C., give particular interest to the developments which have been in progress in the manufacture of cotton goods in that city during recent years. The utilization of water-power by electrical transmission has been an experiment of much significance, and the results that have been accomplished with the two power plants have had an important influence upon the utilization of water-powers elsewhere in the South, in addition to the stimulus that has been given to cotton manufacturing in Columbia. The mills in Columbia are of recent construction, and represent the latest ideas in cotton-factory construction and equipment. The magnitude of the plants and their equipment for the production of print cloths—a comparatively new line in the South—are further features of significance.

servation as well as upon data furnished by the engineers and builders, seems to be appropriate at this time.

The main building of the mill is 553 feet long and 151 feet wide, with four stories of eighteen feet in the clear. Adjoining the mill in the rear are a two-story machine shop 40x120 feet, engine-room 50x120 feet, boiler-room 40x140 feet and induced-draft room 40x40 feet. The construction of the buildings is rather noteworthy for its massiveness and the attention that has been paid to many nice little details usually overlooked in factory construction. Wainscotings of hard cement to protect the bases of the walls from disfigurement and damage; glazed tile work flue or tunnel running the length of the boiler-house and connected at six different points with transverse tunnels from the lower ends of the vertical flues. At the center of the power plant are two main smoke tunnels, each of which connects with a 14-foot Sturtevant fan in the induced-draft house back of the boiler-room. By the use of Spencer damper regulators and Mason valves either fan can take care of the entire draft, or each one can handle its own battery of six boilers, or the draft can pass naturally up the stack.

Each fan is run by an independent engine, and both discharge into a 10-foot steel stack. The boiler plant is also de-

of Vermont marble, and is about half the length of the 120-foot engine-room. The motors in the mill and on the outside lines are all controlled from this switchboard, with meters on each of the different feeders and every three motors, enabling a complete record of the distribution to be kept.

In the engine-room also are located the necessary steam and motor exciters, the air-blast transformers and four Knowles triplex vertical power pumps, driven by 20-horse-power direct-connected motors of the induction type. By means of by-pass valves these pumps are so controlled that the supply can be built up as the demand increases, the object being to maintain the pressure at about the pressure on the boilers, so that they can be used either for to catch any drippings of oil; nickel-plated sanitary plumbing, with mosaic and marble work in the closets, similar ornamentation in the engine-room and passenger elevators to carry the help to and from the upper floors are not usually regarded as essentials in mill construction, particularly in the South, and the elaborate attention which has been devoted to these details in the Olympia Mill adds something to the interest of the plant as a new departure in this industry.

The power plant, which is the chief feature of interest in the mill, adjoins the



THE OLYMPIA COTTON MILL, COLUMBIA, S. C.

The power problem is by far the most interesting feature of the cotton-manufacturing industry in Columbia. The industry had its beginning in the use of the old water-power canal, begun long years ago by the State, subsequently taken in hand by the city, and finally relinquished to a private corporation to be completed and put to practical use. With two power plants on the canal about 5,000 horsepower of the river's energy is now being electrically transmitted for use in the cotton mills. The completion of the Olympia Mill will establish a new center of power generation and distribution—a steam plant from which power will be transmitted by electricity—and then all of the half-dozen cotton mills in Columbia will be driven by electricity, generated either by water or steam power.

Unusual interest centers in the new Olympia Mill, which is the creation of Mr. W. B. Smith Whaley, to whose enterprise Columbia is indebted for several other mills. With its 100,000 spindles and 2,400 looms, all under one roof, this will be the largest single mill in the United States, and the successful starting of the plant will mark a notable step of progress in the Southern cotton-manufacturing industry, a departure that will be novel even from the Northern point of view. In view of the unique character of the plant, a somewhat detailed description of its principal features, based upon personal ob-

served so that the air supply to the boilers can be heated by the waste heat of the flue gases.

In the boiler-room are two Knowles vertical duplex steam pumps for boiler feed, each capable of furnishing 75 per cent. of the water required for the boilers. Meters are provided for the measurement of the feed water if required.

In the engine-room are three McIntosh, Seymour & Co. engines of the vertical cross-compound side-crank type, with cylinders twenty and forty-eight inches in diameter by forty-two inches stroke. The speed is 133 revolutions per minute, and at 165 pounds pressure they will furnish a maximum of 2,000 horse-power each. Each engine weighs about 244,000 pounds, and has a 14-foot flywheel weighing 60,000 pounds.

Each engine is direct-connected to a 1,300-kilowatt (easy rating or 1,500-kilowatt maximum) General Electric Co. rotary field 40-cycle generator, producing three-phase current of 600 volts. The generator and flywheel are located between the frames of each engine. The engines are specially designed for operating with the generators in parallel, and are provided with the special devices designed for this purpose by McIntosh, Seymour & Co.

The switchboard is a very elaborate one, as demanded by the different nature of the services to be rendered. The board is

center of the mill in the rear. There are twelve Cahall vertical boilers of 300 horse-power each, built by the Aultman & Taylor Machinery Co. These are set in two batteries of six each, one battery with the Hawley down-draft and the other with the ordinary setting. Coal is brought to the boilers in cars on a small industrial railway running the length of the boiler-room. Each boiler has a chute to the ashpit, so that ashes are dumped into cars running on a track in the basement.

The absence of the customary tall chimney and the presence of the small stub stack show the use of artificial draft. A Y-shaped flue takes the smoke from groups of two boilers and carries it to vertical brick flues built into the outer walls. Underneath the boilers is a main smoke mill purposes or for the boilers if necessary without the necessity of running separate pumps for either of these classes of work.

The condensers and air pumps are located in the basement of the boiler-room, and the floor is cut away over them. They consist of three sets of Knowles simplex twin-beam vertical air pumps and condensers, each of 3,500 horse-power, this large capacity being necessitated by the high temperature of the water in summer. Each can be run separately to handle all three of the engines if required. Near the air pumps and condensers are two improved American feed-water heaters, and

a 1000-gallon Knowles standard underwriter fire pump is also located in the basement of the engine-room.

Traveling the entire length of the engine-room and about thirty feet from the floor is a 20-ton three-motor electric crane made by the Whiting Foundry Equipment Co., so arranged that it will readily handle any part of the machinery in the room or in the basement.

The floor of the engine-room is of mosaic concrete; the walls are vainscoted with Georgia marble to a height of six feet, and above that are plastered and painted. The ceiling is of stamped steel.

The roofs of the engine-room, boiler-room and induced-draft room are all supported on steel trusses, and there is nothing combustible in the building.

Underneath the engine-room basement are two parallel tunnels for supplying the condensing water and pump suction and returning the condenser discharge.

Between the engine-room and the main body of the mill is the machine shop, 40x120 feet, supplied with a very complete equipment of the most modern and improved machine tools, capable of handling almost anything in the shape of repairs or new construction. The necessity for such an equipment in the South is more urgent than in the North, owing to lack of well-equipped local machine shops where emergency work can be handled.

In the basement beneath the machine shop is located the apparatus for heating and ventilating the mill. There are two 14-foot Sturtevant fans, without heating coils, each driven by an independent engine. These discharge aid directly into the tunnels, which deliver the air to the different risers throughout the mill. At the foot of each riser is a pipe coil of sufficient capacity to heat that riser only, thus making it possible to distribute the heat through the mill as may be desired. The steam piping was all furnished by the Walworth Manufacturing Co. of Boston, and has the Van Stone joint throughout. The sprinkler system was furnished by the same company.

For the application of power throughout the mill there are twenty-two 150-horse-power General Electric 40-cycle three-phase induction motors, using current at 550 volts. Those on the spinning shaft are directly coupled to the shaft and run at 600 revolutions. The motors in the carding and weaving rooms are belted to the shafts, and in the lapper-room they are direct-connected. Each department throughout the mill is run independently.

The layout of the machinery in the mill is as follows:

First floor—Opening machinery, cloth-room, part of the looms.

Second floor—Looms, slanders, spoolers.

Third floor—Carding machinery.

Fourth floor—Spinning machinery.

The opening machinery consists of five openers and feeders, arranged for both round and square bales; five 45-inch breaker lappers, ten 45-inch intermediate and ten 45-inch finisher lappers furnished by the A. T. Atherton Machine Co.

The carding equipment embraces 150 45-inch revolving flat-cards, ten first drawing-frames of twelve deliveries each, and ten second drawing-frames of twelve deliveries each, built by the Saco and Pettie Machine Shops.

The roving machinery consists of twenty slubbers, sixty-four spindles each, 11x5½x9; thirty-two intermediates, 112 spindles each, 8x4x6, and 100 fine frames, 150 spindles each, 7x3½, furnished by the Woonsocket Machine & Press Co.

The spinning machinery consists of 190 frames of 256 spindles each, and 190 frames of 272 spindles each, furnished by the Fales & Jenks Machine Co. These are arranged across the mill.

The spoolers are eight of 150 spindles each, eight of 120 spindles each and eight of 100 spindles each, all 4½ gauge, and thirty-six warpers, furnished by the Draper Company.

There are four single-beam and four double-beam slanders, built by the Cohoes Iron Foundry & Machine Co.

The looms, 2400 in number, are all 40-inch Northrop automatic, from the Draper Company.

The clothroom contains six complete sets of machinery built by the Curtis & Marble Co., and two cloth presses from the Boomer & Boschert Press Co.

The mill is equipped with a humidifier system of 300 heads by the American Moistening Co., and is wired for 350 arc lamps, the 40-cycle long-burning incandescent arc lamps of the General Electric Co. being used. Combination freight and passenger Otis elevators are used, each driven by an independent electric motor. The clock system of the mill includes a tower clock, with four electric dials, and twelve electric clocks distributed throughout the mill, controlled by a master clock in the engine-room, which also operates the watchman-detective system furnished by the Standard Electric Time Co.

The product of the mill is to be 64x64 print cloth thirty-eight and one-half inches wide, and weighing 5.15 yards to the pound.

In the planning and construction of this mill every effort has been taken to secure the most approved ideas and the most efficient equipment. This fact, together with the unusual size of the plant and the method of power distribution, will make the operations of the mill of peculiar interest to cotton manufacturers both North and South. EDWARD H. SANBORN.

\$100,000 Yarn Mill at Charlotte, N. C.

Another important textile enterprise will be added to the many now established in the mill district surrounding Charlotte, N. C. R. M. Miller, Jr., is organizing the new company, to be known, probably, as the Elizabeth Mill, with capital stock of \$100,000 and privilege of increase to \$300,000. The plant will be equipped with 5000 spindles and 3000 twistlers, to produce two-ply yarns, 40s to 60s, both combed and carded. A mercerizing plant will be added after the textile machinery is operating. Site will be secured on the Southern Railway near the city, and construction is to commence soon. Ample water supply is available to the intended site. The company will build its own tenements, supplying them with water, light and sewerage. Mr. Miller, who has originated this enterprise, possesses a successful experience of years in North Carolina mills to ensure the success of the new venture.

A 6000-Spindle Addition.

The annual meeting of the stockholders of the Statesville (N. C.) Cotton Mills was held this week. The report of the management showed the net profits to have been \$28,000, and, in addition to the regular dividend of 8 per cent., it was decided to distribute a dividend of 50 per cent. in stock from accrued dividends. The company also decided to erect an additional mill of 6000 spindles, to provide the funds for which new capital to the amount of \$100,000 will be issued. The present plant operates 7500 ring spindles.

The Cotton Movement.

According to the report of Col. Henry G. Hester for January 11 the amount of cotton brought into sight during 133 days of the present season was 6,940,053, an increase over the same period last year of 689,132 bales. Exports were 3,559,109 bales, an increase of 679,350; takings by

Northern spinners 1,213,433 bales, a decrease of 339,350; by Southern spinners 651,839 bales, a decrease of 17,142.

Textile Notes.

The American Cotton Co. in December shipped 80,853 roundlap bales of cotton, mostly to Europe.

The Darlington (S. C.) Manufacturing Co. will increase capital stock from \$325,000 to \$500,000.

The Fairfield Cotton Mills of Wimsboro, S. C., has declared a semi-annual dividend of 3½ per cent.

H. S. Hudson of Howland, Texas, and others project a \$100,000 cotton-factory company for Paris, Texas.

The Board of Trade at Louisville, Ky., has received a proposition from Philmont (N. Y.) parties for the location of a mill for weaving fleecy-lined underwear to employ 250 operatives.

Archibald Henderson has leased and will put in operation the bag factory at Anniston, Ala., formerly operated by Messrs. Pratt & Yates.

The Corsicana (Texas) Cotton Mills, built last year for 5000 spindles, etc., will probably be enlarged. The directors will meet January 17 to consider increasing \$50,000 for this purpose.

M. H. Edwards and associates of Eastman, Ga., have organized their proposed company as the Eastman Cotton Mills, and are now constructing a 3000-spindle, 160-loom plant. All machinery except belting and supplies has been bought.

The Farish-Stafford-Campbell Co. of Greensboro, N. C., has been incorporated to deal in textile products, manufacture cotton and woolen goods, etc., by Messrs. W. W. Farish, G. A. Stafford, Geo. S. Campbell and others. The authorized capital is \$1,000,000.

The annual meeting of the Ashcraft Cotton Mills of Florence, Ala., was held this week. The company's secretary reported that in less than three months after the commencement of operations (which was last fall) net earnings were shown of over 4 per cent. The capital stock will be increased from \$100,000 to \$150,000 for purposes of enlargement.

The Aetna Cotton Mills of Union, N. C., has been incorporated, with capital stock of \$125,000, by Messrs. W. H. Sartor, T. C. Duncan, Emslie Nicholson and A. K. Foster. This company will build the 10,000-spindle yarn mill, full particulars of which were given in this column several weeks ago. W. H. Sartor is treasurer. Geo. A. Gray of Gastonia, N. C., will have entire charge of erection and equipment of the plant. It will cost about \$200,000.

QUOTATIONS OF COTTON YARNS.

By Buckingham & Paulson, New York, Philadelphia and Chicago, January 15.

No. 10s-1 and 12s-1 warps.....	14½@15
No. 14s-1 warps.....	15½@16
No. 16s-1 warps.....	16 @
No. 20s-1 warps.....	16½@17
No. 22s-1 warps.....	17 @
No. 26s-1 warps.....	18 @
No. 6s to 10s bunch yarn.....	14 @14½
No. 12s-1.....	15 @
No. 14s-1.....	15½@16
No. 16s-1.....	16 @
No. 20s-1.....	17 @
No. 22s-1.....	17½@18
No. 26s-1.....	18½@19
No. 8s-2 ply soft yarn.....	15 @
No. 10s-2 ply soft yarn.....	15½@16
No. 8s-2 ply hard.....	14½@15
No. 10s-2 ply hard.....	15 @
No. 12s-2 ply hard.....	15½@16
No. 14s-2 ply.....	16½@17½
No. 16s-2 ply.....	17 @
No. 20s-2 ply.....	18 @
No. 22s-2 ply.....	18½@19
No. 26s-2 ply.....	19½@20
No. 30s-2 ply.....	20 @
No. 36s-2 ply.....	21 @
No. 40s-2 ply.....	22 @
No. 48s-2 and 5 ply.....	24 @
No. 20s-2 ply chain warps.....	17½@18
No. 22s-2 ply chain warps.....	18½@19
No. 26s-2 ply chain warps.....	19½@20
No. 30s-2 ply chain warps.....	20 @
No. 36s-2 ply hard twist.....	16 @
No. 40s-2 ply hard twist.....	17 @17½
No. 48s-2 ply hard twist.....	18½@19

Market very dull; prices nominal.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record, Baltimore, January 16.

The week under review records a quiet market in a local way, and the volume of business has been of moderate proportions. Numerous inquiries are coming to hand in nearly every department of the trade, which will likely result in considerable actual business during the month of February. The spring trade is looked forward to with considerable interest, and it is expected that the demand will show considerable increase, as usual at that period of the season. In hardwoods the market is quiet, with, however, a better inquiry from out of town for desirable grades of ash, poplar, oak and other woods. Good dry stock is readily sold, and values are firmer, while there is a large supply of green stock on hand at mills. North Carolina pine is very steady, with good indications for an increased volume of trade. Stocks are ample for the present demand, and mills are generally well supplied with orders. The foreign trade in North Carolina pine and hardwoods continues quiet, owing to freight rates, which are still much above the views of shippers.

Charleston.

[From our own Correspondent.] Charleston, January 14.

There has been a good average trade so far during the present month in most lines of the lumber trade of this port and Georgetown. The demand from Northern markets is much better, and orders are coming in freely to nearly all the mills in this section. The demand for hardwoods from European markets is improving, a consignment of ash logs having gone out last week to Bremen. In yellow pine the situation shows a steady market, with stocks not excessive and shipments good. During the week the following vessels cleared for New York: Schooner Edgar C. Ross, 310,000 feet; schooner E. H. Weaver, 450,000 feet; schooner Emma C. Knowles, 448,000 feet; schooner Bessie Whiting, 350,000 feet, and schooner William E. Downes, 508,424 feet. The schooner S. B. Marts cleared for Baltimore with 260,000 feet, and steamship Comanche took out 8569 feet of oak timber among her cargo for New York. At Georgetown the activity among lumbermen increases as the season passes, and in every department of the industry business is in good shape. The Atlantic Coast Lumber Co. is doing a heavy business and is constantly making improvements, which are adding largely to the shipping facilities of this port. The steamer Georgetown, the second of the series of ocean steamers built for the lumber trade of Georgetown, arrived last week. She has capacity for carrying 1,250,000 feet of lumber.

Brunswick.

[From our own Correspondent.] Brunswick, Ga., January 14.

The commercial and industrial record of this port for the year 1900 is an interesting one, and shows a most remarkable degree of enterprise on the part of Brunswick's commercial men, the various industries having throughout the year been characterized by unusual vigor. From the statistics of the Board of Trade it is reported that in foreign exports 153 vessels carried outward-bound cargoes having a total registered tonnage of 115,711, the value of the cargoes amounting to \$6,685,-

273. The imports, foreign and domestic, amounted to \$9,574,371, and domestic shipments to \$8,454,394. While these figures are most significant in character, the industry of wood products, which contributes largely to the commerce of this port, presents perhaps as formidable a showing as any South Atlantic port. The course of the market during the past year in all wood products has been towards greater activity, and the new year opens with a good demand, both foreign and domestic, for all desirable grades of lumber. The cross-tie industry has shown a remarkable degree of activity during the year just closed, and the outlook for the current year is very encouraging from all points of view. Throughout the milling section at St. Simons and all other points mills are generally working up to their full capacity, and have orders sufficient to keep them running regularly for at least sixty or ninety days. Prices throughout the list of values are remarkably steady, while there are indications that higher prices may ensue in the near future. The figures given as to shipments of lumber from this port in 1900 show that 279,863,000 superficial feet of lumber, timber, shingles, staves and laths were cleared during the year. Of this amount, lumber contributed 168,370,000 feet, timber 11,837,000 feet, shingles 1,656,000 feet, staves 5000 feet, laths 40,500 feet and cross-ties 97,954,469 feet. At present freight rates are generally steady, with a fair offering of tonnage, with the following charters reported last week: Schooner Lizzie B. Willey, 522 tons, St. Simons to Boston with lumber at \$5.50; schooner Cella F., 392 tons, with lumber to Norwich, Conn., at \$6; schooner John C. Smith, Brunswick to New York with lumber at \$5.50; schooner J. C. Smith, Savannah to Philadelphia with lumber at \$5.50, and schooner Marjory Brown, 1061 tons, from Savannah to New York with lumber at \$5 and cross-ties at 17 cents.

Mobile.

[From our own Correspondent.]

Mobile, Ala., January 14.

A greater degree of activity was apparent in the various lines of the local lumber trade during the past week and the transactions were of greater volume. The Cuban demand is improving, four cargoes aggregating over 1,000,000 feet having left this port. There is some demand from South America and Mexico. The total shipments for the week to all points aggregated over 2,000,000 feet. The total shipments for the season amounted to 33,790,693 feet, against 52,331,811 feet for the corresponding date last year. The movement at all milling points both here and at outlying points in Florida, Mississippi and Alabama is very much better, mills being supplied liberally with orders, while prices continue firm for the better grades. The timber market is very quiet, with sawn timber quoted at 11 to 12 cents per cubic foot, and hewn timber 13½ to 14 cents per cubic foot. Logs are in good demand—cypress, 6 to 10 cents per cubic foot; poplar, \$8 per 1000 feet, and oak, \$8 to \$12 per 1000 feet. Pine saw-logs are quoted at 6 to 8 cents per cubic foot. The steamer Otto cleared last week for Havre, France, with 176,756 cubic feet of sawn timber and 195,255 superficial feet of lumber. Ocean freights are declining, a steamer being offered last week for timber from the Gulf to the United Kingdom at 112/6. A steamer was chartered to carry timber from Gulf to Genoa on private terms.

New Orleans.

[From our own Correspondent.]

New Orleans, La., January 14.

A most prosperous ending characterized

trade in all commercial, industrial and financial circles of this city at the close of the old year, while the new year is opening upon a period of municipal improvements which promises to be without a parallel in the history of the port. The general trade of the port for the year 1900 shows a marked increase over the previous year. The exports for 1900 reached \$142,211,562, against \$96,565,978 in 1899, showing an increase in 1900 of \$45,645,584. Among the many industries contributing to the development of this city, the lumber trade may be considered a most important factor. The situation at present from the manufacturers' point of view is exceedingly promising in the principal branches of the lumber industry, while dealers everywhere are satisfied that the present demand for lumber warrants the purchase of large supplies, stocks among yardmen in some sections being badly assorted. During the holidays business in a local way was quiet, as usual with all lumber concerns, but at the moment everyone has started the new year afresh, the books of the old year being closed, and trade in all avenues of the industry is becoming more active as the month is passing away. In yellow pine the conditions are very encouraging, and the outlook indicates greater activity, with a corresponding improvement in prices. Along the lines of railroad entering this city mills are all busy, with orders on hand to keep them running at their utmost capacity during the present month. The cypress industry, one of so much importance in this State, is at present in a most satisfactory shape, and the demand, which is now so pronounced, has caused a severe hardening to values. Stocks at the various mills are not by any means excessive, but, on the other hand, the best shipping grades are only in moderate supply. The export trade continues unchanged, sawn timber being rather dull, while lumber is in good demand, especially from the continental markets. Reports from the various lumber agents of the several lines of railroad terminating here are all encouraging as to the progress and general features of the lumber trade. As a rule they report business good, prices firm and the outlook for the current year all that can be desired. Local lumber firms here are looking forward with considerable interest to the opening of the Lake Borgne canal, which, however, will not be ready for navigation as soon as expected, but will open on April 1. The work of deepening and dredging the waterway is well under way, and will be completed by the time the lock-gates are ready to be set. This canal will open a direct water route between New Orleans and the Warrior river coal field of Alabama. The course of the canal is through a very fine timber and agricultural section of this State, and this waterway will afford a direct route for the timber traffic, naval stores and farm products. One of the largest transactions in milling properties was closed last week, when Mr. Frank B. Hayne of the cotton firm of Vincent & Hayne of this city bought out the interest of Capt. Joseph A. Favre of the Poitevant & Favre Lumber Co., which included his holdings in the East Louisiana Railroad, the mammoth saw-mill plant at Pearlinton, Miss., the Pelican Mill in this city and all the timber lands in St. Tammany and adjacent parishes. The Pearlinton plant cuts 125,000 feet of lumber a day, and the Pelican Mill about 60,000 feet a day. The opening of the Lake Borgne canal referred to above, it is considered, will be of immense advantage to this company, as it will get its lumber to the ship's side in this city as cheaply as it now reaches Ship Island. It is expected that a large portion of the for-

ign export trade in lumber and timber of this and other companies will be done through New Orleans when the canal is thrown open.

Lumber Notes.

Receipts of lumber at the port of Norfolk for the year 1900 aggregated 394,467,410 feet, and of logs 109,864,257 feet.

W. A. Thomas, E. P. Snipes, J. Alton McIver and others have organized a \$10,000 company at Jonesboro, N. C., to manufacture sash, doors, blinds, etc.

The receipts of lumber at the port of New Orleans for the week ending the 11th inst. amounted to 2,269,000 feet, and for the season 52,851,621 feet, against 42,783,192 feet last season.

The Southern Box Manufacturing Co. of St. Louis, Mo., has been incorporated, with a capital stock of \$10,000. The incorporators are A. Wanger, W. M. Ware, A. H. Daniel and others.

The Industrial Lumber Co. of Beaumont, Texas, on the 8th inst. cleared the four-masted schooner Frederick C. Frith from Sabine Pass with a cargo of 700,000 feet of lumber for the New England States.

T. B. Parker and Thomas Blanchard of Boston, Mass., have purchased 400 acres of timber lands in the northern part of Colquitt county, Georgia. They propose to cut the timber off first and colonize the land afterwards.

The Peninsular Lumber Co. of Jacksonville, Fla., has been chartered, with a capital stock of \$25,000, to build, buy, lease and operate saw-mills, etc. The incorporators are Franklin F. Davis, T. J. Hammill and Arthur Meigs.

The Bois D'Arc Pin Co. of McKinney, Collin county, Texas, has been chartered, with a capital stock of \$5000, its purpose being to manufacture and sell all kinds of lumber and its products. The incorporators are W. H. Snow, P. H. Millard and F. W. Greer.

Shipments of lumber from the port of Mobile last week amounted to 2,013,886 feet, and for the season 32,790,673 feet, against 52,334,811 feet last season. Shipments of sawn timber for the week were 176,756 cubic feet, and for the season 1,413,462 cubic feet.

The steamship Georgetown, the second of a line of steamers built for the lumber business of Georgetown, S. C., arrived at that port on the 6th inst. She has a capacity of 1,250,000 feet of lumber, and was able to enter port through the deep channel secured by the jetties.

The saw-mill now being erected by I. S. Betts & Co. at Ashburn, Ga., on the site of the one recently destroyed by fire, will be one of the largest and best-equipped plants of its kind in the State. The new mill will have all the latest devices for economizing time and labor now in vogue.

A. C. McComb of Wisconsin, who has purchased 50,000 acres of timber lands south of Tallahassee, Fla., along the line of the Carabelle, Tallahassee & Georgia Railroad, and the big saw-mill at McIntyre, Fla., will shortly return to Florida, bringing with him a number of settlers and land buyers.

Mr. R. R. Lester of Bulloch, Fla., of the late firm of Lester & Ellison, will next week move his saw-mill plant to Silver Springs, Fla., where he has recently made arrangements for 14,000 acres of saw-mill timber. In addition to his present mill, he will put in a larger one with a capacity of 50,000 feet a day.

The annual report of the St. Louis Hardwood and Lumber Manufacturers' Exchange states that 102,576 cars of lumber and logs were received at St. Louis last year, being a gain of 17 per cent.

above 1898. The shipments out of St. Louis also showed a gain of 15 per cent. over the same year.

The total lumber shipments, foreign and domestic, of all kinds from the Brunswick district of Georgia for the year 1900 aggregated 368,575,085 superficial feet. The total shipments from the port of Brunswick amounted to 238,721,462 feet domestic and 41,141,538 feet foreign, or a grand total of 279,863,000 feet. The foreign shipments were valued at \$1,684,910.

Advices were received last week at all the local saw-mills in Chattanooga, Tenn., from points in upper East Tennessee, Southeast Kentucky and Southwest Virginia that heavy rains had fallen, and that the French Broad, Holston, Clinch, Little Tennessee and other streams were rising rapidly. A heavy log tide prevails, and over 4,000,000 feet of logs have started for Chattanooga.

It is stated that a syndicate of lumber exporters of Baltimore and other cities headed by Mr. Richard W. Price of Price & Heald and Mr. John L. Alcock of John L. Alcock & Co. has purchased from the trustees of the Sheppard and Enoch Pratt Asylum a tract of land on the Locust Point water front at Baltimore, which will be utilized for lumber-storage purposes and the establishment of terminal facilities. The price paid for the property is said to be \$125,000.

Messrs. George Drane and Raymond T. Jones, president and vice-president of the Drane & Jones Lumber Co. of Elmira, N. Y., and Mr. Burton F. Jackson, representing Haines & Co., a large lumber concern of Buffalo, N. Y., were registered at Savannah, Ga., last week. They are in the South to purchase yellow pine for their own use and shipment throughout the East. They will make purchases in South Georgia and afterwards visit the Memphis hardwood district.

The following vessels cleared last week from Jacksonville, Fla., for Northern ports: Schooner Maud H. Dudley for Providence, R. I., with 350,000 feet of lumber, and the schooner Oliver S. Barrett for the same port with 450,000 feet; schooner Carrie E. Look for New York with 370,000 feet, and schooner Warren B. Potter for Boston with 200,000 feet. The Clyde steamer Algonquin cleared for New York with 400,000 feet of lumber and 2500 bundles of shingles, with other cargo, and the steamer Navahoe for the same port with 200,000 feet of lumber and 2000 cross-ties.

The first annual meeting of stockholders of the Savannah Naval Stores Co. of Savannah, Ga., was held last week in that city. The reports of officers were received, and showed the company's operations for the year to be satisfactory. The company declared a dividend of 10 per cent. The distribution of checks to those interested will cover quite a large territory in the naval-stores belt. The officers of the company for the ensuing year are W. C. Powell, president; B. F. Bullard, first vice-president; W. W. Beach, second vice-president, and R. B. Powell, secretary and treasurer.

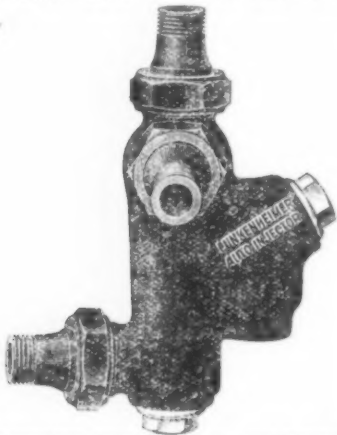
Mr. Elliott Lang, secretary of the National Lumber Exporters' Association, in a circular to the members of the association reminds them that the annual meeting will be held at Memphis on the 30th inst. As this is the first meeting of the association since its organization in Baltimore a year ago, there will be a number of important matters introduced for discussion. The officers of the company are Mr. Ernest M. Price, New York, president; John N. Penrod, Sheffield, Mo., vice-president; Richard W. Price, Baltimore, treasurer, and Elliott Lang, traffic manager and secretary.

MECHANICAL.

Lunkenheim Automatic Injector.

This injector is a simple, durable and efficient boiler-feeder. It will satisfy the most exacting engineer, as it will be found in practice to be reliably automatic under all ordinary conditions, have full capacity at high steam pressures, not affected to any extent by varying steam pressures, and the maximum amount of water delivered is capable of being graded over 50 per cent.

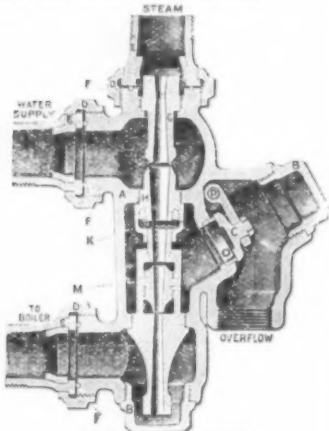
All parts are of good proportions. The body is of cast iron and the tubes of a special hard bronze composition made expressly. These tubes are made more



LUNKENHEIMER AUTO. INJECTOR.

durable by doing away with spill holes in the walls of same. Another feature is that the internal areas of the tubes are smaller, it is claimed, than others for capacities said to be equal, hence the tubes will not wear out of size so soon. All tubes and wearing parts can be easily renewed.

The range of work covered is very wide, and it can be graded over 50 per cent. under all ordinary conditions. This injector is claimed to deliver more water per pound of steam than others—a saving in fuel. While the capacity of injectors is usually diminished by long lifts and hot feed water, the capacity of this one is little affected from such causes.



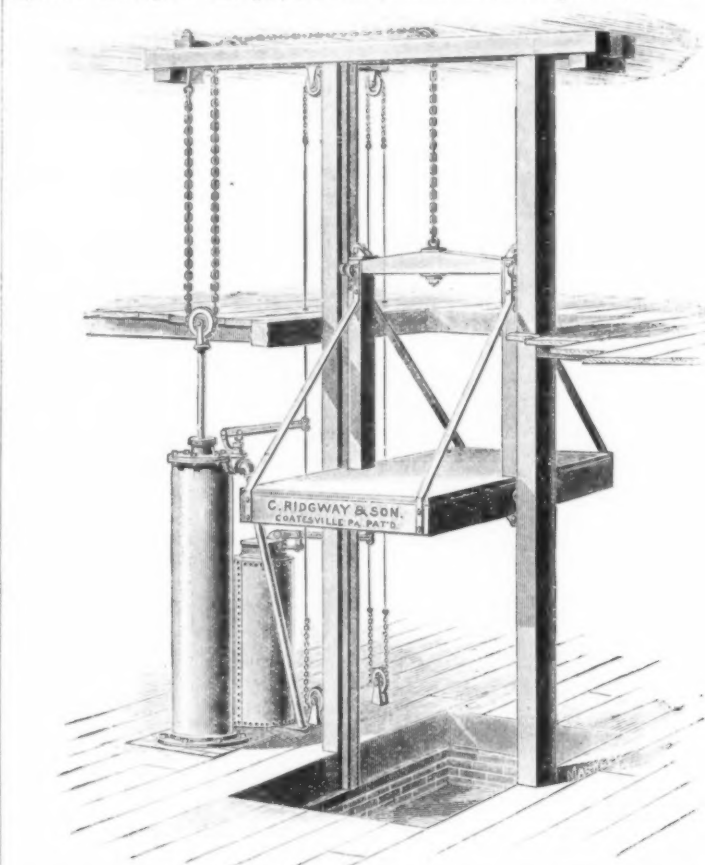
SECTIONAL VIEW.

The injector is absolutely automatic at all times, and can be relied upon to restart instantly after a temporary interruption of either the steam or water supply.

The external appearance of the injector is pleasing, as the entire service is heavily enameled. The steam, suction and discharge connections are provided with male unions. The joints where the unions connect to the body are made with seamless copper rings forced into grooves cut into the faces of the body part of the injector (see sectional view). A joint made in this manner is indestructible and tight. The internal areas of the body are amply large, which accounts for, in a large degree, the excellent working of the

machine. There are several excellent reasons why there should not be any prejudice against the use of an iron-body injector. As regards strength, the Lun-

kenheimer will withstand very severe usage. The body is perfectly rigid, and there is absolutely no liability of the same being distorted by expansion and strain of the connecting pipes.



DOUBLE-GEARED RIDGWAY STEAM-HYDRAULIC ELEVATOR—CHAINS INSTEAD OF WIRE ROPE FOR LOW HEAD ROOM.

kenheimer will withstand very severe usage. The body is perfectly rigid, and there is absolutely no liability of the same being distorted by expansion and strain of the connecting pipes.

Attention is called to the excellence of design and simplicity of construction. The areas of the body are ample and the tubes are all screwed in place, instead of depending upon the pipe unions to secure them. These injectors are all carefully tested before shipment, and besides being required to deliver their rated capacities, they must also be perfect in other respects.

For further information (including table of figures showing the range of steam pressure and lifts with the feed water at 75 degrees, under which this injector will operate) address the manufacturer, the Lunkenheim Co., Cincinnati, Ohio.

Steam-Hydraulic Elevators.

When a hydraulic elevator is referred to one naturally thinks of a machine operated by a pump or from city pressure. Hydraulic elevators are known to have met with great success. They, however, are costly to install, on account of the pumps and tanks required, and because a pump is a wasteful steam user such elevators are expensive to run.

Within recent years there has been introduced by the Craig Ridgway & Son Co. of Coatesville, Pa., the patentee, a type of hydraulic elevator called the "Steam-Hydraulic," which does away with pumps entirely and attaches directly to the steam boiler and uses steam in a highly economical manner. This machine has become very popular wherever it is known, and hundreds are in use.

The maker is desirous of having this elevator better known throughout the South.

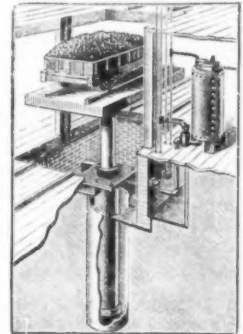
The accompanying illustrations show two styles of the elevator, and are special

constructions as well, to indicate how the machines can be used in unfavorable locations where room is restricted, one using chains instead of ropes for low head room,

and the other showing water cylinder placed in the ground out of the way where space is restricted. The double-gear elevator will be noted to consist of a lift-

the lifting cylinder is placed the water cylinder of a capacity slightly larger than the lifting cylinder. From the bottom of the water cylinder a pipe goes to the lifting cylinder. In this pipe a suitable valve is placed, being connected with hand ropes so as to be reached from the cage. On top of the water cylinder is a plain D slide valve, also connected by hand ropes with the cage. A pipe from the boiler connects with this valve.

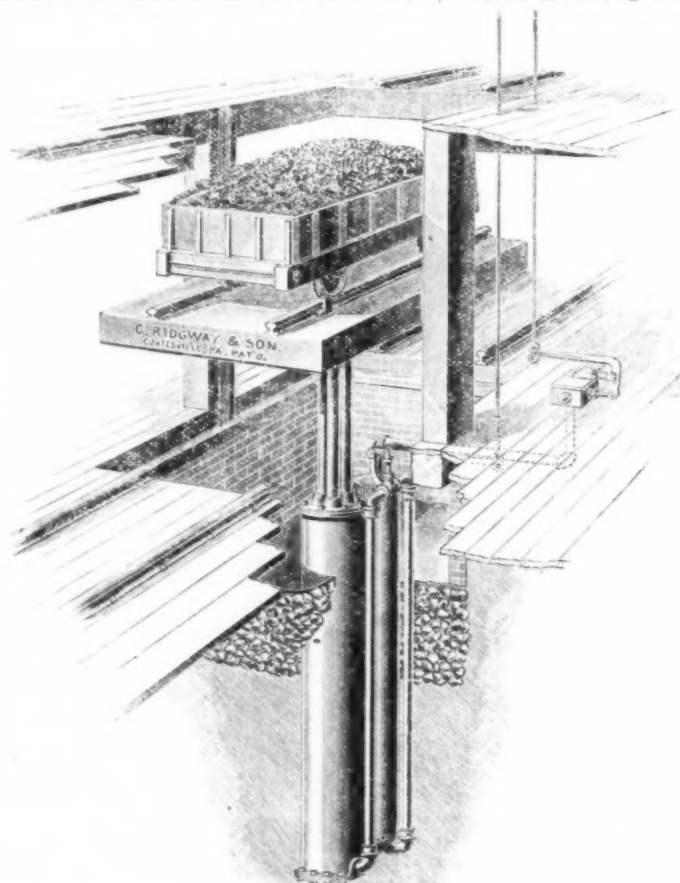
The water cylinder is filled with water nearly to the top, and the machine is then ready for operation. To hoist the platform the steam valve is opened and



RIDGWAY STEAM-HYDRAULIC PLUNGER ELEVATOR.

the water is driven at the boiler pressure into the lifting cylinder, where it forces down the piston and lifts the load. It can, however, only get into the lifting cylinder according to the amount of opening of the valve in the pipe connecting the two cylinders. This valve thus regulates the speed, and the elevator moves up with a gentle motion and at any speed desired. To stop the cage it is only necessary to close the valve. To lower the cage the steam is exhausted, and the water, being relieved of pressure, flows back into the cylinder.

There is no water consumption in the machine, the same water being used over



DIRECT-ACTING RIDGWAY STEAM-HYDRAULIC ELEVATOR—WATER CYLINDER IN GROUND.

ing cylinder with piston-rod. The end of the rod carries a rope wheel, and the lifting ropes are led over top wheels to the cage, which they support. By the side of

and over indefinitely. The water governs the steam. There is no condensation of the steam, as might be expected, on its rushing into the cylinder full of

water, because of the patented arrangements placed in the top of the water cylinder to prevent this. Immediately the steam is admitted the elevator moves off without shock or jar. How gently the machines work may be judged from the fact that the maker produces hundreds of cranes on the same principle for foundries and steel works, where the least irregularity would mean the spilling of great ladles of molten metal.

It is claimed that engineers have tested this "Ridgway 'Steam-Hydraulic' System" in comparison with pump hydraulic, and have found that it uses 60 per cent. less steam.

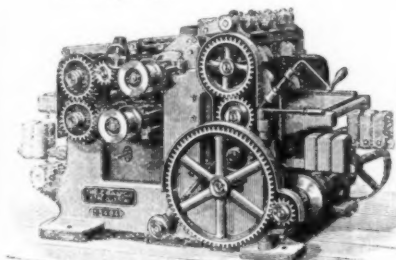
This invention places perfect hydraulic elevating installation at small cost within reach of the smallest establishment. The Franklin Institute of Philadelphia awarded the John Scott medal for the Ridgway machines. The illustrations show a few styles only. The manufacturer will send more detailed information to inquirers.

New Double-Cylinder Surfacers.

The Fay & Egan new double-cylinder surfacer, for general planing and box-factory work, has the following advantages:

Very solid frame and working twenty-four, twenty-seven and thirty inches wide and eight inches thick.

Power feed with broken rolls, either in two or four sections, and each section is center-gear.



NEW DOUBLE-CYLINDER SURFACER.

Lower head comes immediately after the upper, and it will do short as well as long stuff with equal facility.

Simple to operate, and is powerful in all its parts, and one of the best general double-cylinder surfacers made.

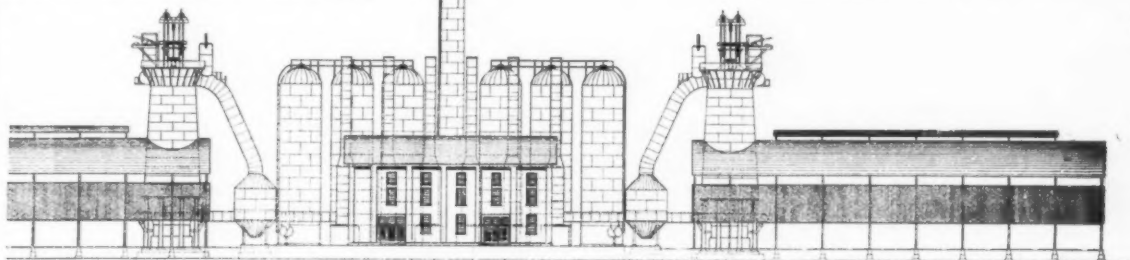
The manufacturer of this improved machine, J. A. Fay & Egan Co. of No. 270 W. Front street, Cincinnati, Ohio, will furnish prices and further particulars.

Improved Blast Furnace.

The unusual activity in iron and steel production during the past two years is familiar to manufacturers and the well-informed observer of the trend of the times. New plants have been constructed and established industries have been enlarged, remodeled and otherwise improved to assist in meeting the increasing demand for iron and steel products. These developments make especially timely and interesting the accompanying illustrations, which present an advance in iron-furnace practice. This improved blast-furnace construction is covered by patents of Walter Kennedy, mechanical engineer, 631 Fifth avenue, Pittsburg, Pa. The plant is economical to operate, because of labor-saving devices decreasing a large proportion of the labor necessary, and at the same time minimizing the first cost, so that great financial resources are not required in order to build. Mr. Kennedy has avoided the use of a great deal of complicated machinery, which is objectionable not only because of first cost, but also on account of the difficulty and expense of maintaining it in good working condition, this requiring frequently more expense for machinists than will be saved

in reducing the labor required in handling raw material.

The most interesting feature is the filling apparatus, the extreme simplicity of which will be readily perceived. It does not require high-priced mechanics to keep it in adjustment, nor the use of any top-fillers, and very few bottom-fillers, thus effecting a great saving in labor. It removes the annoyance caused by strikes of top-fillers, and prevents danger of loss of life in case of an explosion which might



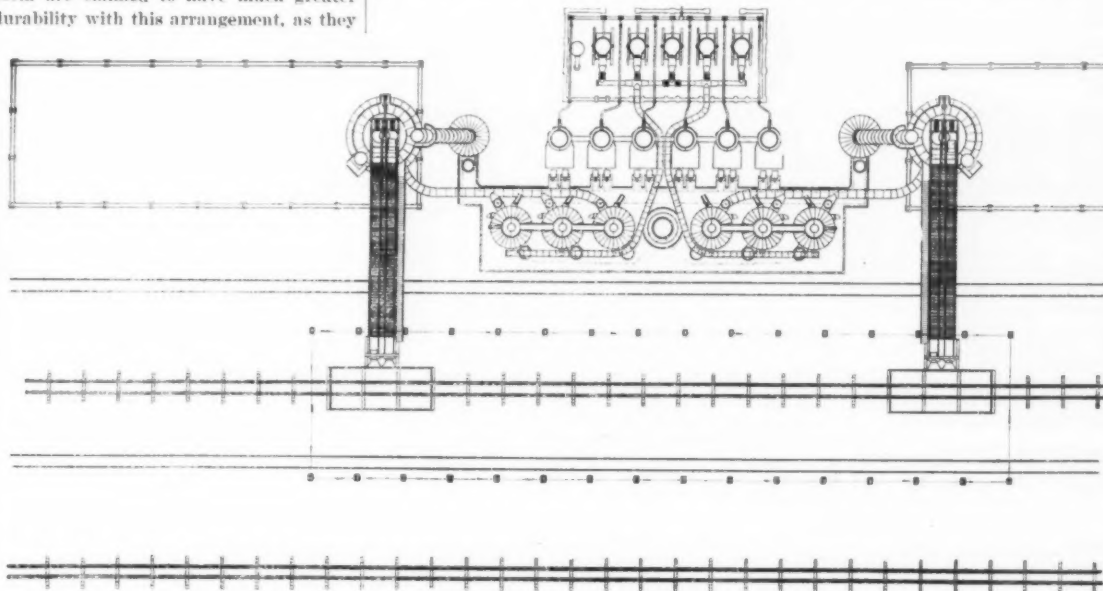
IMPROVED FURNACE CONSTRUCTION.

wreck the top of furnace. It also effects a great saving in fuel, which is ordinarily wasted at furnace top when the big bell is open, as it forms a perfectly working gas seal. The bell, hopper and the parts of the furnace above the charging platform are claimed to have much greater durability with this arrangement, as they

rectly from the cars into the bins and then into the skips by gravity.

The ropes are carried over the top of the framing down on the back or opposite side to the incline and across on each side of the hopper to a sheave under the in-

hopper in good working condition, is much diminished in this case from the fact that there are no top-fillers to be annoyed by gas leaks; a change may be made from an old bell to a new one in a shorter time, because the filling arrangement does not



GROUND PLAN OF STACKS.

are not subjected to the heating and cooling and incidental expansion and contraction which ordinarily occur when the bell is open, allowing the gases to flame out. The distribution of stock with this arrangement is stated to be absolutely perfect, and cannot possibly be affected by dissatisfied workmen. This feature removes a frequent cause of anxiety for the superintendent, particularly if his furnace should be working badly during a time of labor trouble.

The hopper is of the usual design, but resting on it is the gas-seal hood, the top of which forms a seat for the distributing arrangement known as the "clam shell" or "chestnut burr." This consists of a small hopper-like ring, with cylinder opening and lugs, to which are hinged the clam shell. The latter consists of four wings, which, when closed, form a cone, with the apex down and fitting around the bell rod, so as to prevent the escape of gas when the large bell is lowered. The clam shell is operated by means of a beam similar to that for the large bell, to which each wing of the former is attached by means of a chain. Both the large bell and the clam shell are worked by either steam or compressed-air cylinders, controlled by the same man who operates the skips, charges the coke and superintends charging of

cline, and from this down to the engine, which stands under the incline on a solid foundation.

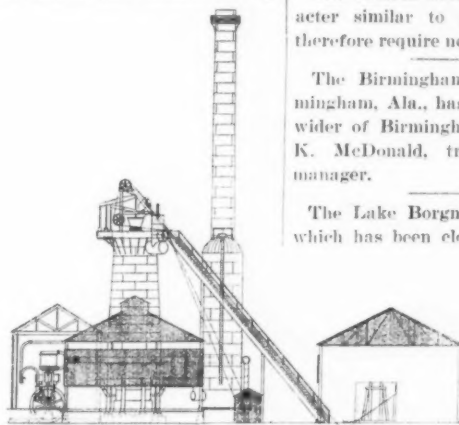
This arrangement permits of several desirable features, viz., building the engine on a solid foundation instead of up

need to be interfered with until the bell is on top of the furnace, and the bell itself lasts longer, because it is not alternately heated and cooled by the escaping gases.

The various accessories are of a character similar to general practice, and therefore require no particular mention.

The Birmingham Realty Co. of Birmingham, Ala., has elected A. M. Fulenwider of Birmingham, president, and J. K. McDonald, treasurer and general manager.

The Lake Borgne canal in Louisiana, which has been closed for some time in



FURNACE HOIST.

on a high trestle; giving the skips a variable travel instead of bringing them up against a fixed guide, dumping lever or stop; in line with the girders of the incline, thus transmitting

order to make a number of improvements to the locks and the canal itself, will be opened for operation on April 1. A portion of the waterway has been considerably deepened.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, January 16.

Dealings in phosphate rock in the local market have been better during the past week, and the market is very steady as to values. Fertilizer manufacturers out of town are investing only in small lots for immediate wants. The only charters reported were the schooner Clara Goodwin, 837 tons, from Port Tampa to Baltimore with phosphate rock on private terms, and the schooners M. E. H. C. Dow, 1208 tons; Maria O. Teal, 1069 tons, and C. S. Glidden, 1038 tons, from Port Tampa to Baltimore, Philadelphia or Carteret with phosphate rock at \$2. In the Tennessee phosphate field there is a better feeling among operators, and the larger corporations around Mount Pleasant regard the outlook for the present year as more encouraging. During the past week the market showed a slightly greater degree of activity, inquiries from domestic sources being more numerous, while there is a better foreign inquiry. Shipments of Tennessee rock from Mount Pleasant via Pensacola to the foreign market are expected to show a material increase for late January and early February. The situation in South Carolina has undergone but little change, several large companies having closed their plants until freight rates and general shipping facilities become more favorable. There is, however, a prospect of better shipments during February, as rates are getting easier. Prices for rock are generally steady, with holders firm in their views. The Florida business continues of fair proportions, with more phosphate moving from land-rock sections. Pebble phosphate is held at outside figures, and the demand is good, with many of the large companies actively engaged.

Fertilizer Ingredients.

The market for ammoniates has ruled fairly active during the week, with a moderate inquiry from the usual sources. Tankage and blood are very much firmer, with a slight advance reported. Stocks in the West are reported light and firmly held at outside figures.

The following table represents the prices current at this date:

Sulphate of ammonia (gross).....	\$2 80	@ 2 85
Nitrate of soda, spot (balto.).....	1 82 1/2	@ 1 85
N. York.....	1 82 1/2	@ 1 85
Blood.....	2 40	@ 2 45
Azoline (beef).....	2 35	@ 2 40
Azoline (pork).....	2 35	@ 2 40
Tankage (concentrated).....	2 25	@ 2 30
Tankage (5 and 20).....	2 30 & 10 60	@ 2 35 & 10 60
Tankage (7 and 30).....	20 00	@ 20 50
Fish (dry).....	27 50	@ 30 00

Phosphate and Fertilizer Notes.

The Sterling Kaolin Co. of Aiken, S. C., has increased its capital stock from \$15,000 to \$25,000.

The barge Carrie L. Tyler cleared from Charleston, S. C., last week for Wilmington, N. C., with 760 tons of phosphate rock.

The steamship Cycle cleared from Savannah, Ga., last week with 700 tons of high-grade Florida phosphate rock among her cargo for Bremen.

C. H. Dempwolf & Co., manufacturers of fertilizer machinery at York, Pa., have issued their calendar for the year, which is among the most artistic in execution of a number received from various sources.

Articles of incorporation were filed last week at Wilmington, N. C., for a company to be known as J. F. Garrett & Co. The capital stock of the corporation is \$25,000. The incorporators are J. F. Garrett, Joseph D. Smith, J. M. Garrett, Louis H. Skinner and J. J. Hopkins. The company will conduct a slaughter-house and cold-storage, and will manufacture ferti-

lizers, utilizing all the blood, hoof, bones, etc., of the slaughter-house. The company will also grind phosphate rock and will manufacture standard acid phosphate.

It is stated that a company to be known as the Standard Fertilizer & Manufacturing Co., with a capital stock of \$1,000,000, has been organized, with general headquarters in New York, to establish fertilizer factories at Birmingham, Ala.; Sparrow's Point, Md.; Copley, Pa.; Chattanooga, Tenn., and Iron Mountain, Mo. The company purposes to use as the basis of its product hot-blast furnace slag, which will be pulverized and mixed with chemicals by machinery. The first factory to be built will be located at Birmingham, Ala., the others to be built in the order named above.

Cottonseed-Oil Notes.

It is said that it has been decided to rebuild the Merchants and Planters' Cotton Oil Mill at Houston, Texas, recently destroyed by fire. The plant will cost about \$100,000.

A fire that started in a luitroom of the main building of the Greenville Oil & Cotton Co. of Greenville, Texas, on the 8th inst. completely destroyed the building. The loss is estimated at \$70,000; insured for \$40,000. The mill will soon be rebuilt.

Cottonseed products were quoted last week in Memphis, Tenn., as follows: Prime crude oil, 23 cents; off crude, 21 to 22 cents; prime summer yellow, 26 cents; choice cooking summer yellow, less than earlots, 40 cents; cottonseed meal and cake, earload lots, \$19.25 to \$19.50 per ton.

The market for cottonseed products last week at Texas points was very steady, with holders not disposed to sell for future delivery. Cottonseed cake and meal was in demand for export. Quotations ranged as follows: Prime crude oil, loose, 23 to 24 cents, and prime summer yellow oil at 26 to 26 1/2 cents; linters per pound, 3 1/2 to 4 cents, all f. o. b. Texas interior points, according to location; hulls, baled, \$4 per ton; cottonseed cake and meal, \$21 to \$21.25 per ton f. o. b. Galveston; cottonseed at stations, \$11 to \$12.

The New Orleans Cotton Exchange has established a system of rules governing the handling and sales of cottonseed products. This innovation gives promise of being one of great benefit to those engaged in this industry. At a meeting of the board of directors held on the 10th inst. the rules governing business in cottonseed and cottonseed products formulated by the committee were read and adopted. On the exchange there will be a committee whose duty it shall be to have made up and kept four classes of linters, graded A, B, C and D, to furnish quotations of cottonseed, cottonseed meal, cake, oil and linters, which shall be posted on 'change. General rules governing the sale of all cottonseed products are formulated—contracts, claims and measurement of cottonseed oil, weight and classification of cottonseed meal and cottonseed; also rules relating to the export trade. It is the intention of the exchange to solicit the co-operation of all the cottonseed mills throughout the country. The new system will give the planters reliable information as to the price of products, which will be posted daily.

The Oxley Stave Co., established in Chattanooga, Tenn., in 1889 by Col. F. G. Oxley, has sold out to the Standard Oil Co., and on and after January 15 the offices will be transferred to Cleveland, Ohio. The business of manufacturing sawed oil-barrel staves will be continued, and, in addition to the stave mills at Ris-

ing Fawn, Ga., Lansing, Tenn., and Dixon, Ala., several new mills will be built, equipped and placed in operation along the Tennessee Central Railroad in the fine timbered region of the Cumberland plateau. The mills will continue to deliver their product at Junction City, Ky.

Richmond at Work.

According to a dispatch from Richmond, the capital stock of the Richmond Locomotive and Machine Works has been increased from \$2,500,000 to \$4,500,000. The addition to the capital has been made necessary by the great number of orders received by the company during the past few months. To fill large orders 1500 men are working day and night on a schedule which promises to continue eight or nine months, if not longer. The company is installing \$50,000 worth of new equipment in its boiler shops. At the yards of the Trigg Shipbuilding Co. great activity also prevails. Much of the new equipment for the machine shop will soon arrive, and the new boiler shop will be built during the year. The keel of the cruiser Galveston is to be laid next week. It is expected that the Stockton will shortly be turned over to the government, which has accepted it, and that the Shubrick will have her builders' trial. Some time in the spring the revenue cutter Mackinaw will be launched. The powerhouse of the Virginia Electrical Railway & Development Co. is nearing completion, and the company expects to begin to supply power by April to the traction company. Plans are making also for a number of other large buildings of one kind or another in the city.

A Guide to Industry.

The "Norfolk & Western Railway Industrial, Shippers' and Buyers' Official Guide" is the title of the attractive volume edited by Mr. Walter H. Henderson of New York and published by the general freight department of the Norfolk & Western Railway for the use of prospective investors and manufacturers. The volume contains a great number of half-tone illustrations of scenery, industrial plants and other objects of interest along the road, and to persons otherwise uninformed is a revelation not only of the development already accomplished in the territory traversed by the Norfolk & Western system, but also of the vast possibilities still to be realized. The intimate relations of the company to the economic growth of the South is clearly set forth in the list of the flour mills on the line of the road, the list of shippers of flour, feed, grain and hay, the accounts of the operations of companies engaged in iron and coal mining, coke and iron manufacturing, the descriptions of timber resources and lumber plants, of agricultural undertakings and of the industrial, educational and social life of towns and cities.

Extensive Foreign Business.

A schedule of sailings of steamships operating from New Orleans in connection with the Illinois Central Railroad's foreign business shows that during January and February 320 vessels are actually under charter to load cargoes, not including independent or tramp steamships. They include nineteen vessels of the Harrison Line, three of the Wilson Line, five of the Head Line, twenty-five for Elder, Dempster & Co., two for the Manchester Line, seven for Hammond & Co., five for the Hamburg-American Line and eight for the Radcliffe Line. The ports to which cargoes are consigned comprise nearly all of the seaboard cities of Great Britain, as well as points in Northern Europe and on the Mediterranean coast,

the West Indies, South America and Eastern Asia.

From Southern Ports.

Messrs. George H. McFadden & Bro., extensive cotton factors of Philadelphia, have organized a steamship company, with the view of operating lines of vessels from Gulf and South Atlantic ports to various foreign cities. It is understood that not only cotton, but miscellaneous freight, will be carried. The company is to be entitled the Ocean Steamship Co.

To Build Docks.

The Galveston East End Pier, Wharf, Dock & Ship Terminal Co. has elected G. A. Meyer, president, and C. J. McRae, general manager. The company, which is capitalized at \$500,000, it is reported, has decided to construct a system of docks in the eastern section of the city, and has acquired property on the harbor front for this purpose.

The January issue of the Sewanee Review, edited by Dr. John B. Henneman and Dr. B. J. Ramage of the University of the South at Sewanee, Tenn., is the first number of volume 9 of that interesting quarterly, which has become an exponent of the best in Southern literary aspiration, reflecting the broad spirit which is working out the salvation of that section. Its contents include a vivid summary of General Forrest's career, by Bishop Gailor, based upon Dr. Wyeth's biography; a discussion by Prof. W. P. Trent of the phases of reconstruction; a contrast of Christian mysticism and nature mysticism, by the Rev. Dr. R. H. Starr; a tribute by Prof. James A. Quarles of Washington and Lee University to the character of William L. Wilson; a study by Dr. Henneman of Dryden after two centuries; new light thrown by Congressman Francis R. Lister of Virginia upon Arnold's invasion of Virginia in 1781, and a suggestive article by Mr. S. S. P. Patteson of Richmond, Va., on the political isolation of the South. There are, moreover, careful reviews of a number of recent works of fiction, verses, essays, biography and history, and interesting notes on current culture topics.

The Electrical Review of New York devotes its issue for January 12, 1901, to a review of the history of electrical development during the nineteenth century. Every branch of the field of electrical invention and endeavor is covered in twenty-one special articles by eminent experts. This historical number is embellished with seventy-three portraits of electrical engineers and inventors, whose work has assisted in the building up of the industry.

According to a dispatch from Pensacola, Fla., arrangements have been made to continue regular steamship service between Pensacola and Havana by the Louisville & Nashville Railroad Co. The Gulf Transit Co. will have charge of the sailing schedule.

The Merchants and Manufacturers' Association of Baltimore at its annual meeting elected Messrs. Lloyd L. Jackson, president; William T. Dixon, E. Stanley Gary, John R. Bland and J. Ross Diggs, vice-presidents, and Lawrence B. Kemp, treasurer.

The exports from the United States to Germany have more than doubled in value since 1895. The totals were \$79,563,594 in 1895 and \$179,134,400 in 1900.

The Board of Trade of Lake Charles, La., has elected H. J. Geary, president; G. T. Rock, vice-president, and Leon Chavanne, secretary.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Anniston—Bag Factory.—Archibald Henderson has leased and will put in operation the bag factory formerly operated by Pratt & Yates.

Birmingham—Mineral Development.—J. W. Weisel is organizing a company for the development of mineral lands in the Birmingham district.

Birmingham—Publishing.—Chartered: The Ensley Publishing Co., with capital of \$50,000, by J. W. Minor, Chas. H. Frye, Geo. Bynum and others.

Birmingham—Box Factory.—W. C. Smith of Woodlawn, Ala., contemplates establishing a box factory at Birmingham, and desires correspondence.

Birmingham—Fertilizer Factory.—John C. Bain of Mobile, Ala., and New York parties will organize the Standard Fertilizer & Manufacturing Co., with capital stock of \$1,000,000, for the establishment of a fertilizer plant at Birmingham with capacity of 500 tons per day; company will use as the basis of its product hot-blast furnace slag. It is proposed to establish five plants, the one at Birmingham being erected first; others to be at Sparrow's Point, Md.; Copley, Pa.; Chattanooga, Tenn.; Iron Mountain, Mo., and one on the Pacific coast, each plant to be incorporated locally, with capital stock of \$1,000,000. Mr. Bain is at present at the Florence Hotel, Birmingham.

Clements—Coal Mines.—R. E. Watson of Atlanta and others have bought coal mines near Clements, and will organize a \$100,000 stock company to develop same; mines have present output of 300 tons, which is to be increased largely.

Decatur—Bridge Works.—The Alabama Bridge Works will be enlarged at a cost of \$45,000.

Decatur—Foundry and Machine Shops.—The Nashville (Tenn.) parties reported recently as having purchased the Alabama Machine Works and to enlarge and improve same, are H. K. Adams and Robert Dyas.

Florence—Cotton Mill.—The Ashcraft Cotton Mills will increase capital stock from \$100,000 to \$150,000 for enlargements.

Mobile—Builders' Material Factory, etc.—The Fonde Building Co., lately reported as incorporated, succeeds Fonde Bros., contractors and builders. Company has complete plant for manufacturing builders' materials, store and office fixtures, mantels, screens, grills, etc.; S. M. Le Baron, secretary.

Mobile—Shoe Factory.—The company reported recently as being organized by T. G. Bush and others, with capital stock of \$100,000, for the manufacture of shoes, has incorporated as the Bush-Hall Shoe Co. Henry Hall and Lloyd D. Batre are also interested.

Montgomery—Advertising Agency.—Chartered: The Blaine-Thompson Co., with capital stock of \$10,000. A. H. Evans is president; O. H. L. Wernicke, vice-president; E. R. Blaine, secretary, and J. E. Thompson, treasurer. Address "Telephone Building."

Montgomery—Grain Elevator and Warehouse.—T. J. Sullivan of St. Louis, Mo., representing himself and others, will erect a \$20,000 elevator and warehouse in Montgomery.

ARKANSAS.

Clarksville—Coal Mines.—The Johnson County Coal Co. has been incorporated, with capital stock of \$30,000, to develop coal mines. J. H. Powers is president; W. H. Lankford, vice-president, and J. W. Coffman, secretary and treasurer.

Falkville—Coal Mine.—A coal mine is being developed on the property of J. S. Gaudy.

Memph—Water-works.—O. G. Gorman of Dallas, Texas, has received franchise for construction of water-works recently mentioned; reservoirs will be constructed with capacity of not less than 1,500,000 gallons.

Pine Bluff—Bridge.—The Commercial Club states that a bill has been introduced in Congress authorizing Jefferson county to construct and maintain the proposed steel drawbridge over the Arkansas river at Pine Bluff. Drawings of the proposed bridge, together with estimates of cost, have been submitted and other preliminary steps are being taken; E. D. Russell, secretary.

FLORIDA.

Gabriella—Saw-mill.—Lucas & Burkett are building another saw-mill.

Jacksonville—Saw-mills, etc.—Franklin F. Davis, T. J. Hammill and Arthur Meigs have incorporated the Peninsula Lumber Co. to build and operate saw-mills, planing mills, etc., with capital stock of \$25,000.

Lake City—Corn Mill.—The Florida State Ginning Co., S. P. Thompson, manager, contemplates putting in a corn mill or a roller mill to make fine cornmeal and pearl grits.*

Ocala—Celery-Cocoa Factory.—Smith & Jones will establish a factory to make celery cocoa.

Pensacola—Cotton Compress.—The Pensacola Compress & Manufacturing Co., reported recently as incorporated, will operate a fleece press for the compression of square bales.

Pensacola—Elevator.—J. S. Mize of New Orleans, La., is investigating with a view to leasing and operating the Pensacola grain elevator.

Silver Springs—Saw-mill.—P. R. Lester has secured 14,000 acres of timber lands, and will install a new saw-mill of 50,000 feet daily capacity in connection with his present mill.

Tallahassee—Saw-mill.—The Thomas Lumber Co. will erect saw-mill.

Tallahassee—Saw-mill.—A. C. McComb of Wisconsin has purchased 50,000 acres of timber lands south of Tallahassee and the saw-mills at McIntyre. C. B. Mayer will be manager, and may be addressed at McIntyre.

GEORGIA.

Americus—Warehouse Commission Company.—F. W. Griffin, J. L. Chambliss and others have incorporated the Chambliss Warehouse Co., with capital stock of \$15,000, and privilege of increasing to \$50,000, to conduct general warehouse commission business.

Americus—Warehouse Commission Company.—Chartered: The Johnson & Harrold Warehouse Co., with capital stock of \$25,000, and privilege of increasing to \$100,000, by H. R. Johnson, Sr., Thomas Harrold and others.

Augusta—Brick Works.—J. H. McKenzie & Son, G. B. Parker and Hollis Boardman have incorporated the McKenzie Brick Co., with capital stock of \$25,000, for establishment of brick plant of 75,000 daily capacity.

Cartersville—Planing Mill.—Puckett & Field have purchased machinery for planing mill; will erect new building later.

Cartersville—Flour Mill.—The Etowah Milling Co., which recently purchased the Sam Jones mill, will make improvements, which include erection of large building, installation of new machinery to increase output to 3000 bushels of meal in twenty-four hours, electric-light plant and improvements to the dam by dredging the bottom and increasing volume of water. George W. Brooks of Atlanta is president.

Cartersville—Flour and Grist Mill.—George W. Brooks has let contract for a 150-barrel flour mill and a grist mill with twelve runs of buhrs.

Cedartown—Iron Furnace.—It is rumored that the Sloss-Sheffield Steel & Iron Co. of Birmingham, Ala., has purchased the property of the Etna Furnace Co., near Cedartown, consisting of 8000 acres of mineral lands and furnace; it is understood the furnace will be overhauled and blown in and several hundred tons of iron ore mined per day.

Cuthbert—Variety Works and Broom Factory.—The Cuthbert Variety Works is installing new machinery for variety works; also a broom factory of 500 per day capacity, as mentioned lately.

Dublin—Ginnery.—The Dublin Oil Mill & Ice Co. will install new battery of gins, increasing capacity to fifty bales per day.

Eastman—Cotton Mill.—The company reported lately to be organized by M. H. Edwards and others will be known as the Eastman Cotton Mills. A mill of 3000 spindles and 100 looms is being constructed.*

Elberton—Foundry.—Thomas Bailey of the Bailey Foundry and Machine Works, Athens, Ga., contemplates establishing a foundry at Elberton.

Macon—Cotton-oll Mill.—The Sterling Cotton Oil Mills, lately reported as incorporated, is erecting buildings, main one of brick, 32x25 feet; storage-room of brick, 100x150 feet, and seedhouse 60x240 feet; daily capacity 120 tons.*

Macon—Bridges.—The city will vote February 19 on the issue of \$70,000 of bonds for bridges. Address "The Mayor."

Montezuma—Bridge.—The city will construct a new iron bridge. Address "The Mayor."

Thomasville—Timber Lands.—E. B. Parker and L. Blanchard of Boston, Mass., have purchased 400 acres of timber lands near Thomasville, and will cut timber on same.

Washington—Cotton Mill.—Jas. P. Verdery and Thos. K. Scott of Augusta and associates have in contemplation the erection of a large cotton mill, to be operated by Anthony Shoals water-power.

KENTUCKY.

Ashland—Mineral-land Development.—J. M. Dixon of Indianapolis, representing an Indiana syndicate, has purchased 6000 acres of mineral lands near Ashland and will develop at once; property contains coal, clay and other minerals.

Bowling Green—Stone Quarries, Lime Works, etc.—The Bedford-Bowling Green Stone Co. has been incorporated, with capital stock of \$30,000, as reported during the week, for the purpose of quarrying stone, manufacturing lime, etc., and it is also probable that the company will operate the old Bowling Green stone quarry near Memphis Junction; incorporators, J. E. Pitts of Bedford, Ind.; D. Y. Johnson of Bedford, Ind., and Clayton H. Barnard of Bowling Green.

Carrollton—Tobacco Factory.—M. I. and M. L. Barker will organize the Barker Tobacco Co. for the establishment of a plug-tobacco factory.

Louisville—Knitting Mill.—Philmont (N. Y.) parties have made a proposition to the Board of Trade for the location of a fleece-lined underwear mill.

Louisville—Stock-yards.—J. J. Gaffney is preparing plans for new stock-yards at South Louisville.

Louisville—Distillers' Supplies Factory.—Chartered: The Hoffman-Ablers Co., with capital stock of \$50,000, to manufacture distillers' supplies.

Louisville—Medicine Factory.—The Lyon Medicine Co. has been incorporated, with capital stock of \$75,000, for the manufacture of patent medicines, by A. E., D. B. and Mrs. A. E. McBea and others.

Middlesborough—Coal Mines.—The Excelsior Coal Co. will open new workings at the Excelsior mine.

Mt. Sterling—Water-works.—The Mt. Sterling Water, Light & Ice Co. will begin work at once on construction of its plant. Address A. A. Holbrook, Wilkesbarre, Pa.

Newport—Watchcase Company.—The United States Watchcase Co. has been incorporated, with capital stock of \$10,000, by Chas. A. Surran, A. H. Coleman and W. H. McMillan.

Nicholasville—Telephone System.—The company reported to be organized by B. W. Arnett and others for construction of telephone system has been incorporated as the Nicholasville Home Telephone Co.

LOUISIANA.

Iota—Rice Mill.—A rice mill will be established. Possibly Dr. L. A. Clark can inform.

Jennings—Woodworking Mill.—J. E. Foster & Sons will not rebuild their burned saw-mill until next fall, but are now building a small woodworking plant to operate in connection with lumber-yard.

Minden—Electric-light Plant.—Felix Drake, Thos. Crichton and R. H. Miller have received franchise for erection of electric-light plant.

Monroe—Electric-light Plant and Water-works.—The city has purchased and will operate the plant of the Monroe Electric Light & Water-Works Co. Address "The Mayor."

New Iberia—Knitting Mill.—The New Iberia Cotton Mill Co., Limited, is advertising for bids for a building for its knitting mill, reported last week; plans have been prepared for an underwear mill of 200 dozen daily capacity; cotton mill will be added later on; A. B. Murray, treasurer.*

New Orleans—Tobacco Factory.—The company reported lately to be organized, with capital stock of \$50,000, by R. Beauvais for the manufacture of Perique tobacco will be known as the B. Perique Manufacturing Co. Address 98 Gravier street.

New Orleans—Sewerage System.—It is rumored that within ninety days bids will be asked for the construction of the municipality's projected sewerage system, estimated to cost \$10,000,000. The advisory engineers are B. M. Harrod, city hall, and L. W. Brown, 74 Carondelet street, both in New Orleans; Rudolph Hering, 100 William street, and Geo. W. Fuller, 220 Broadway, both in New York, and A. T. Bell, Memphis, Tenn.

Shreveport—Machine Shops.—The J. L. Means Machinery Co., Limited, has been incorporated, with capital stock of \$50,000, to manufacture machinery and boilers. J. L. Means is president; R. S. Munger, vice-president, and S. Q. Munger, secretary, all of Dallas, Texas.

Shreveport—Candy Factory.—The Henry Rose Mercantile & Manufacturing Co. has been incorporated, with capital stock of \$100,000, to conduct mercantile business and continue the candy manufactory of Henry Rose; new machinery will be placed in factory; Henry Rose, president; Henry A. Fetzner, vice-president; F. C. Marsden, secretary-treasurer.

MARYLAND.

Baltimore.—Chartered: The Frutena Company, for dealing in powdered fruit-flavoring extracts, with capital stock of \$5000, by Harry A. Allers and others.

Baltimore—Manufacturing.—The Baltimore Sanitary Co. has been incorporated, with capital stock of \$5000, for collecting waste paper, etc., and using same for manufacturing purposes; incorporators are John A. Smith, William F. Hiltz, Charles Eyth and others.

Baltimore—Starch Factory.—The Staley Manufacturing Co. has about completed repairs and improvements to its starch factory damaged by fire, as reported lately; machinery will increase capacity to 15,000 pounds per day.

Baltimore—Piers.—The Baltimore & Ohio Railroad Co., John K. Cowen, president, has had plans prepared for construction of five or six piers 800 feet in length to cost \$1,500,000 at Locust Point; improvements will include construction of a series of tracks.

Baltimore—Ice Factory.—The American Ice Co. will establish an ice factory at Arlington with capacity of twenty tons per day.

Baltimore—Manufacturing.—The American Manufacturers' and Savings Association has been incorporated, with capital stock of \$50,000, to manufacture house-furnishing goods, taking the patents in steam cookers belonging to W. E. Beveridge and enlarging the

facilities for manufacturing them. The incorporators are Winfield E. Beveridge, Louis M. Elberson, Harry Wells Rusk, Clarence M. Kemp and others.

Baltimore—Ice Factory.—The Carroll Springs Distilling Co., 915 Frederick road, contemplates erecting an ice factory.

Conowingo—Bridge.—The Conowingo Bridge Co. contemplates constructing a steel span of 150 feet on Cecil side of Susquehanna river.

Cumberland—Commission Company.—Chartered: The Cumberland Fruit & Produce Co., with capital of \$5000, by Lucian D. Sizer and others.

Garrett County—Coal Mines, Saw-mills, etc.—Jennings Bros., Lopez, Pa., are building a road to develop several thousand acres of timber land in Garrett county, also to develop coal mines found along the line of proposed road; saw-mills and other wood-working industries will be built and operated.

Garrett County—Coal Mines.—The West Virginia Coal Co. of Elkins, W. Va., has purchased three tracts of coal lands in Garrett county, and will build a mining town, developing mines, etc.

Leslie—Kaolin Mines, Potteries, etc.—A company is being organized, to have a capital stock of probably \$500,000, for the development of kaolin beds on about 400 acres of land near Leslie and at other points in Cecil county. The developments will include the erection of refinery for heating the clay, the manufacture of fire-brick, the location of potteries, etc. The machinery for refining will be constructed after patents granted on the inventions of George Muller, 609 South Broadway, Baltimore, who is also promoting the enterprise. An engineer has been examining the property thoroughly for some time. An East Liverpool (Ohio) pottery manufacturer intends to locate a plant to help utilize the deposits.

Midland—Electric-light Plant.—Chas. C. Bailey is interested in the installation of an electric-light plant, as recently noted.

Pocomoke City—Ice Factory.—The Pocomoke Ice Co. has been chartered under Delaware laws, with capital stock of \$25,000, by E. G. Polk, James Clogg, T. E. Jones and John T. Satterthwaite.

Westernport—Coal Company.—The Cumberland & Westernport Co., with capital stock of \$20,000, has been incorporated by Evan M. Jones, Thomas M. Richter, John O. J. Green and others.

MISSISSIPPI.

Jackson—Stave and Heading Factory.—T. B. Allen & Co. of Memphis, Tenn., will not erect planing mill at South Jackson, as lately reported, but a stave and heading factory.

Lexington—Cotton Mill.—The Lexington Cotton Mill, reported several months ago, has completed organization, with G. A. Wilson, president, and J. E. Stanfield, secretary and treasurer; will begin erection of buildings at an early date; capital stock \$100,000.

MISSOURI.

Galesburg—Bridge.—The construction of a two-span iron bridge is proposed; estimated cost \$5000. Address B. N. Davis.

Kansas City—Lead and Zinc Mines.—The Metropolitan Lead and Zinc Co. has been incorporated, with capital stock of \$100,000, by M. W. Clay, A. M. Ehrhardt, William A. Shuman and others.

Kansas City—Mining.—Chartered: The Gable Mining & Smelting Co., with capital stock of \$350,000, by Frank Rockefeller, Utley Wedge, Frank Siegel and others.

Neck—Mining.—Chartered: The Cole & Ingersoll Mining Co., with capital stock of \$50,000, by G. L. Cole, C. Ingersoll, C. Morse and others.

St. Louis—Construction.—Chartered: The Rountree Construction Co., with capital of \$500, by A. M. Rountree, M. E. Rountree and John C. Settle.

St. Louis—Compressed-air Company.—Chartered: The Montague Compressed Air Co., with capital stock of \$25,000, by Henri R. Henderson, John H. Elerman, Nicholas J. Peppert and others.

St. Louis—Machine Shops.—The Dudley Carper Manufacturing Co., reported recently as incorporated, succeeds A. W. Dudley & Co. in the manufacture of machinery, dies, tools, models and patterns; company has purchased the New Hietts Machine Co.'s plant, which about doubles its capacity; A. C. Carper, president, 1211 Pine street.

St. Louis—Table Factory.—The Udel-Predock Manufacturing Co., reported recently as incorporated, is successor to the Udel-Predock Manufacturing Co. (not incorporated), manufacturer of parlor, library and folding tables.

St. Louis—Hardware and Trunk Factory.—

Chartered: The St. Louis Trunk & Hardware Manufacturing Co., with capital stock of \$10,000, by Joseph Christophel and others.

St. Louis—Box Factory.—The Southern Box Manufacturing Co. has been incorporated, with capital stock of \$10,000, by A. Wanger, W. M. Ware, A. H. Daniel and others.

St. Louis—Paint Company.—The Pikrite Paint Co. has been chartered, with capital stock of \$5000, by H. Carroll Alford, J. H. Woolsey, H. Rumsey and Joseph Dickinson, Jr.

West Plains—Milling.—Chartered: The Pease-Moore Milling Co., with capital stock of \$27,000, by C. M. Pease, George A. Pease, Henry Moore and others.

West Plains—Mining.—The G & G Mining Co., reported recently as incorporated, is mining zinc carbonate and has four mines in operation; company has also built an oxide plant containing twenty-four furnaces, and is burning its own ore into zinc white (oxide), and expects to increase its capacity shortly.

NORTH CAROLINA.

Charlotte—Plumbers' Supply Works.—Dowd & King, lately mentioned, have discontinued contracting for plumbing, and will establish heating, lighting and plumbing supplies business, installing pipe-cutting and threading machinery.

Charlotte—Cotton Mill.—R. M. Miller, Jr., will organize a company, to be known probably as the Elizabeth Mill, with capital stock of \$100,000, and privilege of increase to \$300,000. Company will erect a mill of 5000 spindles and 3000 twistlers, and after machinery is in operation will add a mercerizing plant.

Goldsboro—Buggy Factory.—The R. E. Jones Buggy Co. has been incorporated, with authorized capital of \$100,000, by R. E. Jones, J. F. Southerland, D. E. Smith, J. W. Edwards and others, to establish factory.

Greensboro—Cotton Commission.—The Farish-Stafford-Campbell Company has been chartered to conduct general cotton goods commission business, with authorized capital stock of \$1,000,000, by W. W. Farish, G. A. Stafford, Geo. S. Campbell and others.

Greensboro—Flour Mill.—The Greensboro Roller Mills will install new machinery for increasing capacity.

Henderson—Whetstone Deposits.—Owen Davis, Box 21, will develop whetstone deposits.

Hickory—Foundry.—Haworth & Puckett will rebuild foundry and machine shop recently burned.

High Point—Woodworking Factory.—The company reported lately as being organized by John H. Tate for manufacture of sash, doors, blinds, dressed lumber, etc., will be known as the American Lumber Co.

Hillsboro—Corn Mill.—The Hillsboro Milling & Manufacturing Co. has recently installed a corn-mill outfit, together with cleaning and bolting machinery, with capacity of about 200 bushels.

Jonesboro—Foundry and Machine Shops.—Messrs. McFarland will establish foundry and machine shops.

Jonesboro—Sash, Door and Blind Factory.—W. A. Thomas, E. P. Sulpes, J. Alton Melver and others have organized a \$10,000 company for the manufacture of sash, doors, blinds, etc.

Kinston—Ice Factory and Oil Mill.—The Lenoir Oil & Ice Co., lately reported, has contracted for a 12-ton ice plant, building for which is being erected; company intends to build and equip a 25-ton oil mill during next summer.

Mt. Airy—Tobacco Factory.—The Hadley-Smith Company, reported recently as incorporated, will operate the consolidated factories of Sparger Bros. & Co. and Hadley & Smith; J. A. Hadley, president.

Raleigh—Drug Company.—The W. H. King Drug Co. has been incorporated, with capital stock of \$20,000, to continue drug business already established; B. S. Jerman, secretary.

Raleigh—Woodworking Plants, etc.—The German-American Land Co. has been incorporated for the improvement of lands by erection of woodworking and lumber mills, warehouses, etc., by Adolf Kallischer, H. C. Brown and T. B. Womack; capital stock \$10,000, with privilege of increasing to \$200,000.

Raleigh—Mercantile.—A. B. Stronach and others have incorporated the A. B. Stronach Co., with capital stock of \$15,000, and privilege of increasing to \$100,000.

Rutherfordton—Water-works.—An election will be held to decide the issuance of not more than \$10,000 of bonds for construction of water-works. Address "The Mayor."

Sans Souci—Fertilizer Factory and Cold-storage Plant.—J. F. Garrett & Co. have in-

corporated, with capital stock of \$25,000, and privilege of increasing to \$100,000, for enlargement of fertilizer works; improvements include enlargement of fertilizer plant and butcher yards, installation of cold-storage plant with capacity of 100 head of dressed cattle, etc.; about \$10,000 will be expended.

Smithfield—Contracting Company.—Walter Rand and W. J. Stephenson, under firm name of Rand & Stephenson, will conduct general contracting and building business.

Statesville—Cotton Mill.—The Statesville Cotton Mills will build a new \$100,000 mill of 6000 spindles; William Wallace, president.

Wilmington—Rice Mills.—Philip Rahm of New York will, it is reported, direct the remodeling of the Carolina Rice Mills recently purchased by Adolph Oettinger, 336 Greenwich street, New York, N. Y.; capacity of mill will be increased to 150 barrels of cleaned rice per day. In a recent letter to the Manufacturers' Record Mr. Oettinger says: "The rice mill at Wilmington has been sold to me, but no decision has as yet been rendered to future thereof."

Wilmington—Paint Factory.—T. Frank Simmons of Wilmington and Henry Pannill of Petersburg, Va., will erect a three-story brick building in Wilmington and equip it for the manufacture of paints and oil products under the name of the Pannill Roof Paint Co.

SOUTH CAROLINA.

Aliken—Kaolin Mines.—The Sterling Kaolin Co. will increase its capital stock from \$15,000 to \$25,000.

Batesburg—Publishing.—Chartered: The Batesburg Publishing Co., with capital of \$1000, by J. A. Whitten and others.

Blacksburg—Iron Works.—The Cherokee Iron Works has been chartered, with capital stock of \$30,000, by J. L. Blake, president; J. C. Plant, vice-president, and R. P. Roberts, secretary and treasurer.

Charleston—Contracting.—The J. T. Snelson Contracting Co. has been chartered, with capital stock of \$3000, by J. T. L. and T. Snelson.

Columbia.—Chartered: The Mill Stable Co., by W. R. Henderson and others, to deal in horses; capital stock \$25,000.

Columbia—Tea-growing Company.—The American Tea Growing Co. has been incorporated, with capital stock of \$60,000, by Augustus C. Tyler of New London, Conn., and Roswell W. Trimble, also of Connecticut; company's tea farm will be at Rantowles.

Darlington—Cotton Mill.—The Darlington Manufacturing Co. has increased its capital stock from \$225,000 to \$500,000.

Fort Mill—Cotton Mill.—Harvey and William White of Durham, N. C., and J. E. Williamson of Fort Mill are reported the promoters of a new cotton mill to be built at Fort Mill.

Georgetown—Lumber Company.—The Atlantic Coast Lumber Co. (established) has been incorporated, with capital stock of \$1,000,000, with L. A. Hall of Bay Mills, Mich., president; R. L. Montague, secretary.

Greenville—Mattress Company.—The Greenville Mattress Co. has been incorporated, with capital stock of \$10,000, by A. G. Gower, Avery Patton and C. C. Jones, for the manufacture of mattresses.

Hershaw—Supply Company.—Chartered: The Farmers' Supply Co., with capital stock of \$15,000, by R. T. Hilton and others.

Latta—Supply Company.—The Latta Supply Co. has been chartered, with capital stock of \$20,000, by E. B. Berry (president) and others.

Lexington—Lumber Mills.—The Lexington Lumber Co. has been chartered, with capital stock of \$5000, by James E. Hendrix, president; Alfred J. Fox, secretary and treasurer, E. B. Roof and J. M. Craps.

McBee—Mercantile.—Chartered: The McBee Mercantile Co., with capital stock of \$15,000, by W. K. Williams of Lancaster and others.

Montmorenci—Telephone System.—J. T. Shuler will construct system between Montmorenci and Aiken.

Newberry—Laundry.—Chartered: The Newberry Steam Laundry by M. A. Carlisle, H. S. Rightmire, John R. Thompson and L. B. Aull.

Spartanburg—Cotton Mill.—The Fairmont Mills, W. L. Harris, president, will increase its capital stock to \$100,000.

Summersville—Cider and Vinegar Factory.—The Hutchinson-Skinner Co. has been organized for manufacturing cider, vinegars, etc., by W. A. Hutchinson, Milton P. Skinner and others; capital \$6000.

Summersville—Tea Cultivation.—Col. A. C. Tyler and Maj. R. D. Trimble of New London, Conn., and Baron J. A. von Brunig of

Washington, D. C., have bought 4000 acres of pine land near Summerville, and will develop same by the cultivation of the tea plant, expecting to produce 300,000 pounds of tea annually.

Union—Cotton Mill.—T. C. Duncan, Elsie Nicholson, A. K. Foster and W. H. Sartor have incorporated the Aetna Cotton Mills, with capital stock of \$125,000, to build the 10,000-spindle yarn mill, of which full details were recently presented in this department. W. H. Sartor is treasurer. George A. Gray of Gastonia, N. C., will have entire charge of erection and equipment.

Whitmire—Cotton Mill.—The Glenn-Lowery Manufacturing Co. states that its mill, now in course of construction, will have 25,000 to 30,000 spindles and complement of looms, capitalized at \$500,000. The plant was originally announced as to have but 15,000 spindles.

Woodburne (not a postoffice)—Rice Company.—The Cherokee Rice Co. has been chartered, with capital stock of \$20,000, by F. Q. O'Neill and R. H. Harleston, to conduct planting and farming business.

TENNESSEE.

Ashwood—Flour Mill.—C. J. Davis, E. E. Collins and M. E. Jones are erecting a \$10,000 flour mill.

Bristol—Ice Plant.—The Diamond Ice Co. has contracted for the installation of a 30-ton machine.

Burns—Stave Factory.—Luther Bros. have their proposed stave factory in operation; capacity 50,000 spoke-barrel staves per day.

Centerville—Spike and Handle Factory.—The Centerville Spoke & Handle Co. will install machinery for manufacturing hubs, axle handles, plow and hammer handles.

Chattanooga—Bellows Factory.—The Tennessee Bellows Co., reported recently as installing new machinery, states that only a few repairs are being made.

Chattanooga—Refrigerator Works.—The Keyser Manufacturing Co. will erect an entirely new plant for the manufacture of the "Odorless" refrigerator, as lately reported; James H. Keyser, secretary and treasurer.

Chattanooga—Ice Plant, etc.—The Chattanooga Brewing Co. is erecting an addition and installing a 400-horse-power engine and a 150-ton ice plant.

Chattanooga—Manufacturing.—H. J. Weinfield & Co., manufacturers of toilet preparations, will be incorporated for the purpose of enlarging their business.

Chattanooga—Stave Mills.—The Standard Oil Co. (principal office, New York city) has purchased the Oxley Stave Co.'s plants; in addition to the several oil-barrel stave mills, several new mills will be built. Keith Webb will continue as general manager, and have office at Cleveland, Ohio.

Chattanooga—Glass Factories.—The Chamber of Commerce is in correspondence with Indiana and Ohio parties desiring to locate glass factories in Chattanooga.

Crossville—Coal Mines.—R. O. Campbell of Atlanta, Ga., is at the head of a company that proposes to develop coal properties at Crossville and Monterey.

Dickson—Flour Mill.—G. W. Dodson has purchased the corn mill of W. S. Anderson, and will organize a stock company and convert plant into a flour mill with capacity of eighty barrels per day.

Jellico—Bottling Works.—The Nelson Carbonating Works has made improvements, including the installation of a kerosene engine, etc.

Knoxville—Telephone Company.—The Southern Telephone Co. will apply for charter, with capital stock of \$25,000, to furnish supplies and construct exchanges for independent telephone companies. W. O. Rhode is president; Walter S. Roberts, vice-president, and Chas. L. Myers, general manager. Address Deaderick Building.

Memphis—Rug Factory.—A factory for the manufacture of rugs is contemplated. Address Geo. E. Cope, P. O. Box 34.

Memphis—Mercantile.—Chartered: Chiam Bros., by James G. Chiam and others, with capital stock of \$75,000.

Memphis—Grain Elevator.—C. N. Wisner & Co. will rebuild their \$10,000 grain elevator, reported burned.

Mountain City—Lumber Mill.—The Tennessee Lumber Co., reported lately as incorporated, owns large body of timber lands in Johnson county, and will build mill of 80,000 feet daily capacity.

Nashville—Telephone System.—The Cumberland Telephone Co. has had plans made by Thompson & Gibel for erection of a new six-story fireproof building, in which will be installed the new common battery light signal system.

Rockville—Water-works.—The city will decide January 25 the issuance of \$20,000 of bonds for water-works. Address "The Mayor."

TEXAS.

Austin.—Chartered: The Farmers' Cotton Yard, with capital stock of \$25,000, to establish a public warehouse, by C. G. Caldwell, R. P. Bull and others.

Bonham—Elevator.—The Bonham Mill & Elevator Co. will enlarge its elevator capacity, as lately reported, by putting in steel bins.

Calvert—Coal, Clay, etc.—Deposits.—The Brazos Valley Coal, Clay & Manufacturing Co. has been incorporated, with capital stock of \$30,000.

Colmesneil—Brick Works.—The Colmesneil Brick Co. is erecting plant with capacity of 35,000 bricks per day.

Corsicana—Cotton Mill.—The Corsicana Cotton Factory Co., recently established with 5000 spindles and 150 looms, will meet January 17 to consider increasing its capital stock from \$100,000 to \$150,000.

Corsicana—Grocery Company.—The F. M. Cheney Grocery Co. has been incorporated, with capital stock of \$25,000, by F. M. Cheney and others.

Dallas—Foundry, Machine Shops, etc.—The Murray Company, reported recently as incorporated for manufacture of square-bale cotton presses and to conduct general machinery and manufacturing business, has purchased plants of Murray Ginning System Co. and Texas Gin & Machine Co. and will operate same. J. H. McDonough is president and general manager, and F. J. Baker, secretary and treasurer.

El Paso—Water Company.—The El Paso Pure Water Co., with capital stock of \$20,000, has been chartered by E. M. Skeetz, C. O. Lagerfeldt and S. H. Newman.

Fort Worth—Electric Power-house.—The Interurban Electric Railway, J. T. Voss, general manager, will expend \$70,000 in improvements, including erection of new power-house.

Gainesville—Cannery.—J. M. Lindsay, Tyler & Simpson or S. Zacharias can give detailed information regarding the canning factory reported recently to be established.

Galveston—Wharves, Docks, etc.—The Galveston East End Pier, Wharf, Dock & Ship Terminal Co. will construct wharves, docks, etc.; G. A. Meyer, president.

Hearne—Cotton-oil Mill.—P. Grogan, L. W. Carr, R. J. White and Ed Wilson are the promoters of the cottonseed-oil mill lately reported.

Houston—Irrigation.—Chartered: Harris County Irrigation Co., with capital stock of \$10,000, by John T. Brown, James McCaughan, John Farmer and others, to construct system of irrigation.

Houston County—Saw-mill.—The Central Coal & Coke Co. of Texarkana has awarded contract for erection of a saw-mill in Houston county with daily capacity of 300,000 feet and for \$100,000 worth of new machinery, which includes two band saws, one 52-inch band saw and a marking machine; company owns 165,000 acres of timber surrounding the mill site.

Lagrange—Telephone System.—The Fayette County Telephone Co. has been incorporated, with capital stock of \$5000, to construct and operate a telephone system, by John Schumacher, Leo Frede and Chas. A. Perlit.

La Porte—Steam Laundry.—W. E. Wren has secured building and is equipping as a laundry.

Longview—Mercantile.—Chartered: Womack-Perry Co., by A. A. Womack, with capital stock of \$30,000.

Luling—Mercantile.—Chartered: Walker Bros. & Co., with capital stock of \$30,000, by G. C. Walker and others.

McKinney—Packery.—The Shain Packing Co., reported recently as incorporated, has begun operations, having purchased packing-house of Wm. Allen & Son.

Mexia—Printing.—Chartered: The Herald Printing Co., with capital stock of \$5000.

Mexia—Drug Company.—The Kemp Drug Co. has been chartered, with capital stock of \$20,000, by T. McKenzie and others.

McKinney—Lumber Mills.—The Bois D'Arc Pin Co. has been incorporated, with capital stock of \$5000, for the manufacture of lumber and its products, by W. H. Snow, P. H. Millard and F. W. Greer.

Paris—Furniture Company.—Chartered: The Longmire-Wortham Furniture Co., with capital stock of \$25,000, by W. M. Longmire, R. W. Wortham, G. Watt Smith and W. C. Chisum.

Paris—Cotton Mill.—Efforts are being made

to organize a \$100,000 stock company for the establishment of a cotton mill. H. S. Hudson of Howland, Texas, can probably inform.

San Saba—Mercantile.—Chartered: Henry Kelley & Lidstone, Limited, with capital stock of \$25,000, by N. K. Lidstone and others.

Swift—Saw-mill.—Wirt Boynton has purchased engine, boiler and saw-mill outfit to operate in connection with cotton gin.

Taylor—Blacksmith Shop.—J. W. Grant has established a blacksmith shop.

Terrell—Mercantile.—Chartered: The C. M. Kitchen-Nuckolls Co., with capital stock of \$15,000, by C. M. Kitchen and others.

Waco—Mercantile.—Chartered: The Miller-Cross Co., with capital stock of \$50,000, by F. L. Miller, A. V. Cross and others.

Waxahachie—Mercantile.—Chartered: The Murray Co., with capital stock of \$20,000, by George S. Murray.

Whitesboro—Mercantile.—Chartered: W. H. Marshall & Sons Co., with capital stock of \$20,000, by W. H. Marshall and others.

VIRGINIA.

Alexandria—Glass Factory.—George D. Hopkins contemplates establishing a glass factory to cost \$20,000.

Bristol—Coal Lands.—It is reported that Geo. L. Carter has secured a large body of coal land, and will develop at once.

Bristol—Lumber Mills.—The Stone Lumber Co. will add dryhouse and other machinery, as reported lately, and increase buildings 10,540 square feet.

Buena Vista—Brick Works.—The Southern Clay Co. (office, 421 Chestnut street, Philadelphia, Pa.) will rebuild its plant recently burned at Buena Vista; capacity will be increased to 20,000 firebrick per day.*

Emporia—Electric-light Plant.—Arthur Satterwhite contemplates the establishment of an electric-light plant.

Franklin—Peanut Factory.—The Pretlow Peanut Co. has about completed its peanut factory; capacity 500 bags per day. New building has been erected and equipped with the latest improved machinery, including electric plant, etc. Robert A. Pretlow is president, and S. R. Delk, superintendent.

Lexington—Tin Mines.—A Philadelphia (Pa.) syndicate represented by Dr. William Schmoele of Norfolk, Va., has optioned 2500 acres of land containing tin ore (the property of the Irish Creek Tin Mining Co. and Sandford & Pinkney of Lexington), and will remodel machinery and begin operations at once.

Newport News—Ladder Factory.—The Newport News Ladder Co. has been incorporated, with capital stock of \$50,000, for the erection of a factory to manufacture a folding ladder invented by the Blairsville Ladder Co. J. R. Curry is president; Dr. B. R. Gray, vice-president, and J. E. Warren, secretary and treasurer.

Norfolk—Coal Piers.—The Nottingham & Wrenn Co. states that the announcement of its erecting coal piers or docks at the Southern Railway's wharf was premature.

Richmond—Mineral-land Development.—The Richmond Investment Co. has been incorporated, with capital stock of not less than \$5000 nor more than \$10,000, for dealing in and developing mineral properties. F. P. Ryan is president; J. W. Massie of Manchester, Va., vice-president, and H. W. King, secretary and treasurer.

Richmond—Smoke-consumer Factory.—The Smokeless Furnace & Heating Co. has been incorporated for manufacturing a patented invention for consuming smoke. C. W. Tanner is president; E. M. Crutchfield, vice-president and secretary.

Staunton—Cannery.—Frank Spiese, 410 Drexel Building, Philadelphia, Pa., has organized at Craig City, Va., the Pennsylvania Canning Co., incorporated under New Jersey laws, with capital stock of \$50,000, for the erection of a \$10,000 cannery at Staunton.

Suffolk—Cotton Gin.—J. Walter Hosier will establish cotton gin at East Suffolk.

WEST VIRGINIA.

Camden—Coal Mines.—It is reported that the Baltimore & Ohio Railroad Co., F. D. Underwood, general manager, Baltimore, Md., will develop five coal mines at Camden.

Huntington—Gas Wells.—The Milton Oil & Gas Co. will develop gas wells.

Romney—Sandstone Quarries.—Thos. H. Hobbs of Cumberland, Md., has purchased and will develop sandstone property in Hampshire county, and will install a plant for grinding the stone into fine sand.

BURNED.

Greenville, Texas.—Greenville Oil & Cotton Co.'s mill; estimated loss \$70,000.

BUILDING NOTES.

Augusta, Ga.—Apartment-house.—Mrs. E. M. Dawson and Jacob Phinizy will, it is reported, erect a series of apartment-houses corner of Broad and McIntosh streets; cost \$50,000.

Augusta, Ga.—Bank Building.—The Georgia Railroad & Banking Co. has had plans made for a three-story building to cost \$70,000.

Augusta, Ga.—Office Building.—Leonard Phinizy has had plans made for a 30-room addition to his office building to cost \$25,000.

Bay St. Louis, Miss.—Jail.—Supervisors of Hancock county awarded contract for erection of a three-story brick and steel jail to the Champion Iron Co. of Kenton, Ohio.

Beaumont, Texas—Apartment-house.—J. Frank Keith contemplates building a four-story apartment-house.

Camden, S. C.—Jail and Residence.—Will L. Landrum & Son have contract at \$3200 for building new jail and jailer's residence.

Cartersville, Ga.—Warehouse.—J. E. Field & Son will erect brick warehouse, with stone and gravel roof 120 feet square.

Charleston, S. C.—Building.—McCarrell & Sloan have contract at about \$15,000 for construction of superstructure of the exposition administration building.

Charlotte, N. C.—Office Building.—The Home Office Building Co. has been organized, with capital stock of \$80,000, for erection of a five or eight-story office building. Address Abbott & Stephens.

Chattanooga, Tenn.—Apartment-house.—A. A. Strong, Henry C. Abercrombie and others have awarded contract to T. A. Chambers for the erection of the proposed \$8500 apartment-house mentioned recently.

Chattanooga, Tenn.—Building.—T. T. Wilson has awarded contract to Fisher & Brown for erection of a two-story brick business block to cost \$5000.

Columbia, S. C.—Bank Building.—The Carolina National Bank will erect a five-story bank and office building equipped with elevator and all modern improvements; Willie Jones, cashier.

Corsicana, Texas—Dwellings.—The Corsicana Cotton Factory Co. will expend \$8000 in building operatives' dwellings.

Corsicana, Texas—Dwellings.—The Corsicana Cotton Factory will build operatives' cottages to cost \$8000.

Crowley, La.—Residence.—J. Frankel has let contract to Chas. Hornell for erection of dwelling 67x70 feet.

Crowley, La.—Hotel.—James A. Petty closed contract with Mrs. M. E. Delhommer of Lafayette for erection of frame hotel in South Crowley.

El Paso, Texas—School Building.—Plans have been prepared for erection of new school building to cost \$45,000. Address "The Mayor."

Galveston, Texas—Opera-house.—Plans and specifications are being prepared for erection of new opera-house. Address Albert Wels.

Galveston, Texas—Exchange Building.—The Galveston Cotton Exchange, reported lately to remodel its building, has let contract to F. Neuwiler at \$23,000 for erection of a four-story office building to contain steam heat, elevator, etc.

Houston, Texas—School Building.—John A. Morin has received contract at \$26,850 for rebuilding Fannin street school, recently burned.

Knoxville, Tenn.—Buildings.—M. E. Parmlee is preparing plans for a Baptist church at Loudon. The Atkin Building is being remodeled into an office building at a cost of \$5000. L. C. Waters is preparing plans for several local buildings.

Middlesborough, Ky.—Dwellings, etc.—The Excelsior Coal Co. awarded contract to G. M. Brosheer for erection of commissary and fifty cottages.

Mobile, Ala.—School.—Plans will be drawn for new school building. Address Commissioner Sledge.

Montgomery, Ala.—Bank Building.—The First National Bank, A. M. Baldwin, president, has had plans prepared by Lockwood & Smith for a six-story fireproof building to cost \$50,000 and to contain elevator, steam heat, electric plant, etc.

Moultrie, Ga.—Courthouse.—Colquitt county will build a \$21,000 courthouse. Address "County Commissioners."

New Orleans, La.—Home.—Plans have been prepared by Diboll & Owen for the erection of a two-story annex to the Home for Incurables to cost \$9760, exclusive of heating apparatus.

Norfolk, Va.—Jail.—The city council has voted \$100,000 for the erection of the new jail reported during the week; plans contemplate a building of brick, stone and steel containing 135 cells, with room for 100 more. John K. Peebles is the architect.

Petersburg, Va.—Warehouse.—The Portner Brewing Co. will build warehouse.

Romney, W. Va.—Hotel.—Thos. H. Hobbs of Cumberland, Md., contemplates erecting a hotel near Romney.

Russellville, Ala.—School.—The city will expend \$10,000 for erecting schoolhouse; E. T. Allen, mayor.

Shreveport, La.—Office Building.—W. B. Jacobs has had plans made by the J. Riley Gordon Co. for erection of a five-story brick, stone and terra-cotta office building to contain two elevators, electric plant, etc., and cost \$100,000.

Shreveport, La.—Sanitarium.—M. M. Banerman of Grand Cane and W. H. Graham have had plans prepared for a \$10,000 sanitarium and will soon want bids on erection of building.

Tifton, Ga.—Building.—Col. John Morrow will erect a two-story brick stores building.

Waycross, Ga.—Warehouses, etc.—The Price-McCully Co. is erecting brick warehouse; George W. Dean of the Excelsior Medicine Co. will erect a three-story brick business block and a cottage; Lott Bros. are erecting office building.

Wheeling, W. Va.—Casino.—The Island Country Club is having plans made for a casino 80x90 feet.

Wheeling, W. Va.—Flats Building.—Glessey & Faris have prepared plans for three-story flats building 60x100 feet for T. S. Riley.

Wrightsville, N. C.—Theater.—Pembroke Jones has awarded contract to C. T. Shepard for erection of a \$5000 theater after plans by Chas. McMillen; building will be 50x100 feet.

RAILROAD CONSTRUCTION.

Railways.

Abbeville, La.—It is stated that surveys are now being made in the interest of the Southern Pacific Railroad Co. for an extension between Abbeville and Gueydan. J. T. Muhl at Houston, Texas, is engineer.

Barboursville, W. Va.—The branch of the Chesapeake & Ohio system under construction along the Guyandotte valley will be twenty-eight miles in length. Grading has been completed, and about fifteen miles of track laid. H. Pierce at Huntington, W. Va., is engineer.

Bel Air, Md.—John H. Beckord, president of the company which is promoting the railroad between Bel Air and Havre de Grace, writes the Manufacturers' Record that it is expected to let contracts for the necessary material as soon as spring begins.

Birmingham, Ala.—It is reported that the Mobile & Ohio Railroad Co. is again considering an extension to Birmingham by constructing a road through the Warrior river coal district. It is reported that representatives of the Mobile & Ohio have secured an interest in the suburban railroad in Birmingham, which will be used as the terminus of the extension. C. J. Clarke at Mobile is general superintendent.

Brownsville, Texas.—Surveys are being made from Brownsville to Alice, Texas, a distance of 134 miles, with the view of building a railroad to connect with the San Antonio & Aransas Pass Railroad. Hon. J. B. Wells at Brownsville is reported as interested in the plan.

Chesterfield, S. C.—It is reported that several miles of track have been laid upon the Chesterfield & Lancaster Railroad between Cheraw and Lancaster. The road will be fifty miles in length. G. J. Redfearn at Chesterfield is president of the company.

Chestertown, Md.—R. D. Hynson of Chestertown is interested in the proposed electric railroad between Chestertown, Rock Hall and Tolchester, a distance of ten miles.

Dothan, Ala.—It is stated that all of the subscriptions of the capital stock to the Dothan, Hartford & Florida Railroad have been secured. Surveys have already been made between these points by the way of Chipley, Fla. The estimated distance is 130 miles. J. P. Pelham is one of the promoters of the enterprise.

Elkton, Md.—Plans for the electric railroad between Cherry Hill, Elkton and Chesapeake City have been received, and it is expected to begin tracklaying immediately. Deegan & Co. of Philadelphia are general contractors for the road.

Fairford, Ala.—Extensions to the Tombigbee & Northern Railroad, now under construction, aggregate thirteen and one-half

miles, while a further extension ten miles long will probably be built. George F. Montgomery at Fairford is general manager.

Georgetown, S. C.—The Atlantic Coast Lumber Co., it is reported, is now completing surveys for a railroad between Georgetown and Marion, S. C.

Hannibal, Mo.—It is stated that the Hannibal & St. Joseph Railway Co. is considering the construction of about fourteen miles of new line to shorten its present route, near Monroe City, Mo. L. F. Goodale at St. Joseph is chief engineer.

Hawkinsville, Ga.—J. W. Pope, president of the Hawkinsville & Florida Southern Railway Co., writes the Manufacturers' Record that the necessary rails have been purchased for the extension between Pitts and Hawkinsville, and that the company is doing the work with its own force of hands. About eight miles of grade have already been completed, and it is expected to complete the extension about May 1. The distance is thirty miles.

Jackboro, Tenn.—The Campbell County Coal Railroad Co. has been chartered in Tennessee to build from La Follette to a connection with the Knoxville & Ohio Railroad. A. L. Maxwell and Henry Hudson are among those interested.

Knoxville, Tenn.—The Ohio, Tennessee & Carolina Railroad Co. has been chartered in the State of Tennessee to build from Knoxville to Jellico, also to a point on the State line between North Carolina and Tennessee. It is reported that several Knoxville business men are interested in the road. It is stated that A. J. Crawford of Terre Haute, Ind., is interested in the project.

La Follette, Tenn.—It is announced that the plan to extend the Tennessee Northern Railroad from La Follette to Middlesboro, Ky., has been revived, and that arrangements are being made for its construction. The extension would be about forty miles in length if built. H. M. La Follette is the principal promoter.

Louisville, Ky.—A. L. Smartt of Cleveland, Ohio, has become interested in a proposition to build an electric railroad from Louisville to Lagrange and Frankfort, Ky., a distance of fifty miles.

Lufkin, Texas.—The Kansas City Coal & Coke Co. has begun work upon its line between Lufkin and a connection with the International & Great Northern system. Leroy Trice at Palestine, Texas, is general manager of the International & Great Northern.

Lufkin, Texas.—The work of constructing the Texas & Louisiana Railroad from Donavan to the Angelina river is now under way. The road is completed from Donavan to Lufkin. E. A. Frost at Lufkin is general manager.

Memphis, Tenn.—The Kansas City, Fort Scott & Memphis Railroad Co. has decided to place 75-pound rails upon about fifty miles of the road between Memphis and Hoxie, Ark. About thirty miles of the Kansas City, Memphis & Birmingham division between Memphis and Tupelo will be relaid with the same size rails. D. Bontecou at Kansas City, Mo., is chief engineer of the company.

Minter City, Miss.—The White-Woodin Manufacturing Co. of Minter City has decided to construct a railroad about four and one-half miles long in Leflore county.

Morehead, Ky.—Alexander Harding of Philadelphia is president, and W. A. Young of Morehead, vice-president, of the Morehead & West Liberty Railroad, which is being built between the points named, a distance of twenty miles.

Newport News, Va.—The Point Comfort Bench Railway Co. has been organized to build another electric line between Newport News and Old Point by the way of Hampton and Phoebus.

New Orleans, La.—It is reported that the Texas & Pacific Railway Co. has determined to extend the line recently completed to Newroads, La., to a connection with the St. Louis, Iron Mountain & Southern system. The route is along the west bank of the Mississippi, and the new mileage will form a shorter line between St. Louis and New Orleans than now exists. J. T. Mahl at Houston, Texas, is engineer.

Niverton, Md.—Jennings Bros. of Lopez, Pa., who are constructing a railroad line in Garrett county, Maryland, write that they expect to begin tracklaying as soon as the weather permits in the spring. Sixty-five-pound rails will be used and have been purchased. The road will be standard gauge.

Pine Bluff, Ark.—It is reported that the Pine Bluff & Arkansas River Railroad will build an extension nine and one-half miles in length within the next few months. G. L. Morris at Pine Bluff is general manager of the company.

Ronceverte, W. Va.—The latest report relative to the Greenbrier division of the Chesapeake & Ohio system is that it has been completed a distance of eighty-two miles, and that the entire division will be in operation by May 1.

San Angelo, Texas.—According to the statement of W. W. Sylvester of the Kansas City, Mexico & Orient Railroad, work on the section between San Angelo and Sweetwater, Texas, will begin about April 1.

Shreveport, La.—The Shreveport & Red River Valley Railroad Co. is contemplating a further extension to Mansura, La., making a total of seventy-seven miles, for which contracts have recently been let. J. M. Phillips at Shreveport is chief engineer of the company.

Tallahassee, Fla.—The Tallahassee South-eastern Railroad is to be completed as far as the Suwanee river during the present year. An extension from Wacasa to Perry, Fla., a distance of thirty miles, is now under construction. R. L. Bennett at Tallahassee is at the head of the enterprise.

Union, S. C.—T. C. Duncan has secured a franchise from the town authorities to build the proposed electric railroad along several of the streets. The road is partly completed between Union and the plant of the Buffalo Cotton Mills Co.

Weatherford, Texas.—It is announced that arrangements have been completed for the extension of the Weatherford, Mineral Wells & Northwestern Railroad between Mineral Wells and Graham, a distance of thirty-five miles. Right of way has already been secured. L. M. Fouts at Mineral Wells, Texas, is president of the company.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Bagging.—M. & B., 35 Cole Building, Nashville, Tenn., want prices on machinery for manufacture of jute bagging; also full particulars in regard to cost of manufacture.

Bar Outfit.—See "Hotel Equipment."

Barrel Staves.—W. W. Daves, Cartersville, Ga., wants to communicate with users of oak tight-barrel staves.

Belting.—See "Flour Mill."

Belting.—See "Cotton-mill Supplies."

Boiler and Engine.—See "Brick Works."

Boiler and Engine.—See "Woodworking Machinery."

Boiler and Engine.—Southern Hardwood Lumber Co., Box 112, Ozark, Ala., wants large portable engine and boiler for saw-mill.

Boiler and Engine.—F. L. Dillard, D'Arbonne, La., wants a 20-horse-power engine and a 25-horse-power boiler.

Boring Machine.—T. W. Lambert, Mint Spring, Va., wants a three-spindle boring machine to carry eleven-sixteenths bits for boring chair posts; also power-feed rod machine to make chair rods.

Brick.—W. P. B. Morris, 711 Cherry street, Chattanooga, Tenn., may possibly want fire-brick.

Brick Plant.—Southern Clay Co., 421 Chestnut street, Philadelphia, Pa., will need complete equipment for firebrick plant of 20,000 daily capacity, including steam-power.

Brick Works.—Chalker Brick Works, Sandersville, Ga., will need wire cable, belting, hangers, shafting, babbitt-metal linings, lubricating oils and grease; also a 100-horse-power automatic engine and 60-horse-power boiler.

Bridge.—See "Hotel Equipment."

Bridges.—S. D. Rockenbaugh, United States Army, engineer officer, Santiago, Cuba, will open proposals January 26 for construction of three steel highway bridges. Check for \$3000 required. Plans of abutments and other data on file at 220 Broadway, in office of Engineering News, or furnished on application to Lieutenant Rockenbaugh.

Broom Machinery.—C. R. Spratt, Jordan, S. C., wants addresses of manufacturers of broom machinery.

Broom Machinery.—Lovelace Bros., Sadler, N. C., wants addresses of manufacturers of broom-making machinery, broom brush, handles, wire, etc.

Builders' Materials.—J. D. Brown of the Hood County Lumber Co., Granbury, Texas, will need supplies from time to time.

Builders' Supplies.—Rand & Stephenson, Smithfield, N. C., want quotations and catalogues of all kinds of builders' supplies and material.

Burlap.—G. M. Davis & Son, Palatka, Fla., want prices on 875 yards of burlap thirty-eight or forty inches wide.

Can Manufacturers.—McGregor Cotton Oil Co., McGregor, Texas, wants addresses of manufacturers of tin cans for shipping oils, etc.

Chairs.—J. T. Wyatt, Faith, N. C., wants to buy five dozen chairs for hall.

Clothing Machinery.—The Dillon (S. C.) Clothing Co., W. A. Fass, secretary, will probably want machinery for manufacture of clothing and furnishings.

Corn Mill.—S. P. Thompson, manager Florida State Ginning Co., Lake City, Fla., wants to correspond with manufacturers of corn-mill machinery or roller-mill machinery for making fine cornmeal and grits.

Cotton Gin.—Orangeburg (S. C.) Machine and General Repair Shops, W. C. Wise, manager, is in the market for a gin-saw filer and ginners to run by power.

Corn Mill.—See "Flour Mill."

Cotton-mill Supplies.—Eastman (Ga.) Cotton Mills, M. H. Edwards, president, will buy supplies and belting.

Crushing Machinery.—Meininger & Brown, Cole Building, Nashville, Tenn., want a second-hand outfit for grinding and crushing samples.

Diving-outfit Manufacturers.—W. R. Bon-sal & Co., Fort Caswell, N. C. (via Wilmington), want addresses of manufacturers of diving outfits.

Electrical Machinery.—J. J. Tyler, 502 Dyer Building, Augusta, Ga., wants to purchase machine suitable for manufacturing electrical tubes.

Electric-light Plant.—Chas. C. Dailey, Midland, Md., will need electric-light plant.

Electric-light Plant.—See "Hotel Equipment."

Engine.—Jas. L. Dagley, Lockney, Texas, is in the market for a 10-horse-power gasoline engine.

Engines.—W. H. Wall, Wake Forest, N. C., wants prices of traction engines and stationary engines.

Fencing.—Geo. A. Robinson Contracting Co., 110 St. Francis street, Mobile, Ala., is in the market for 500 feet of iron fencing and gates.

Flour Mill.—H. F. Glass, Winchester, Ky., wants one set corn burrs thirty inches under rock run, 13-inch shaft sixteen feet long, three wooden pulleys to fit shaft, two 10x3 and one 10x24; one belt for cornmeal and one for flour, snail mill, screw, corn sheller, corn and cob crusher, belt fifty feet 4x10 inch, and fifteen squares of iron roofing.

Foundry Equipment.—See "Machine Tool."

Foundries.—George J. Muller, 609 South Broadway, Baltimore, Md., will contract soon for construction of patented machinery for refining kaolin.

Furniture Machinery.—Southern Hardwood Lumber Co., Box 112, Ozark, Ala., wants machinery for manufacturing furniture; also handle-machinery outfit.

Gasoline Engine.—See "Engine."

Grist Mill.—Jas. L. Dagley, Lockney, Texas, is in the market for a grist-mill outfit.

Hotel Equipment.—George Tilles, president, Fort Smith, Ark., wants complete electric-light plant, thirty-five feet inclosed bridge and complete bar outfit.

Ice Plant.—I. G. Morgan, Newroads, La., wants bids on six and eight-ton ice plants erected and run for sixty days.

Irrigation Equipment.—Alvin Fruit & Nursery Co., Alvin, Texas, is in need of horizontal boiler 20 to 30 horse-power, engine 20 to 25 horse-power and pumps for deep-well pumping for irrigating 300 acres of rice from wells.

Knitting Mill.—New Iberia (La.) Cotton Mill Co., Limited, A. B. Murray, treasurer, wants to correspond with manufacturers of knitting-mill machinery.

Labels.—American Syrup & Preserving Co., Nashville, Tenn., is in the market for labels. Address E. T. Kirkpatrick.

Laundry Machinery.—A. P. Burch, Chapel Hill, N. C., wants addresses of manufacturers of machinery for hand and steam laundry.

Machine Tool.—Orangeburg (S. C.) Machine

and General Repair Shops, W. C. Wise, manager, is in the market for a 10-inch swing lathe fifteen feet long and small foundry outfit complete.

Oil Mill.—Sterling Cotton Oil Mills, Macon, Ga., wants bids on machinery for 120-ton cottonseed-oil mill.

Oils and Grease.—See "Brick Works."

Paving.—F. M. Welch, mayor, Alexandria, La., will open bids January 31 for furnishing material and constructing 8000 square feet of vitrified brick street pavement on a concrete base. For copies of specifications address Ira W. Sylvester, city engineer.

Pickling Works.—George Strange, 215 S. Jefferson street, Mobile, Ala., desires information regarding equipment and prices for pickling works.

Piping.—W. D. Davis, Statesboro, Ga., wants about 2000 feet second-hand four-inch water main.

Pump.—Lyle Ice & Trading Co., Braidenton, Fla., wants to purchase a steam pump with capacity of 100 gallons per minute.

Pumping Outfit.—Atlantic Coast Construction Co., Suffolk, Va., wants wind-pumping outfit to supply about 1000 gallons water daily.

Railway Construction.—John Andrewartha, C. E., 108 West Eighth street, Austin, Texas, will open proposals January 15 for grading and completing track, including bridging, and for buildings, full equipment and rolling stock, in whole or in part; length, about thirty miles. Maps, profiles and complete specifications on file.

Railway Equipment.—Bailey Iron Works, Mobile, Ala., wants a locomotive and three or four passenger coaches, 42 inch gauge.

Railway Equipment.—Tampa Lumber Co., Tampa, Fla., is in the market for a second-hand tram engine for logging saw-mill to run on wood tracks, tread to be about eight inches, standard gauge.

Refrigerator-factory Machinery.—Keyser Manufacturing Co., James H. Keyser, secretary, Chattanooga, Tenn., is in the market for machinery and supplies for manufacturing refrigerators.

Rod Machine.—See "Boring Machine."

Roofing.—See "Flour Mill."

Rubber Goods.—H. E. Thompson, 591 St. Mary street, San Antonio, Texas, wants addresses of manufacturers of vulcanized rubber goods.

Saw-mill.—Lyle Ice & Trading Co., Braidenton, Fla., wants to purchase small portable saw-mill, new or second-hand.

Shafting and Belting.—See "Brick Works."

Shafting and Pulleys.—See "Flour Mill."

Stave-cutting Machine.—P. B. Lewis, Remington, Va., wants stave-cutting machine.

Tanks.—Standard Pickling Co., Urbana, Va., will buy fifty spruce iron-bound tanks, capacity twenty to fifty barrels each, new or second-hand.

Telephone Materials.—Wanted—A lot of second-hand telephone wire and material. Address, stating prices, P. O. Box 186, Fort White, Fla.

Textile Machinery.—See "Bagging."

Textile Machinery.—George E. Cope, P. O. Box 24, Memphis, Tenn., wants to correspond with manufacturers of machinery for making rugs.

Traction Engines.—See "Engines."

Tubing Machinery.—See "Electrical Machinery."

Water-works Equipment.—G. R. Miner, Davis, W. Va., will want 495 tons of cast-iron pipe, four, six and eight-inch; four tons special castings, twenty-eight four-inch hydrants to set three inches in ground, three eight-inch valves gate, four six-inch valves gate, eight four-inch valves gate, eighteen valve boxes, 900 feet six-inch terra-cotta pipe, 1500 feet of eight-inch terra-cotta bell joint, seventy-five barrels hydraulic cement, seventy-five barrels Portland cement, 19,000 pounds pig lead and 600 pounds hemp lead.

Whetstone Dealers.—Owen Davis, Box 21, Henderson, N. C., wants to communicate with parties who handle whetstones.

Wireworking Machinery.—Theo. Hertz & Son, 235 Park avenue, St. Louis, Mo., is in the market for machinery for twisting from two to four-ply annealed wire No. 20 to 25.

Woodworking Machinery.—See "Furniture Machinery."

Woodworking Machinery.—See "Refrigerator-factory Machinery."

Woodworking Machinery.—See "Boring Machine."

Woodworking Machinery.—Star Showcase Co., Stateville, N. C., wants a second-hand pony planer.

Woodworking Machinery.—J. F. Hockenberry, East Waterford, Pa., wants to pur-

chase a second-hand planer to match twelve inches wide, and belts; also wants 15-horse-power engine, second-hand, and locomotive boiler on wheels or skids.

Woodworking Machinery.—John H. Tate, secretary American Lumber Co., High Point, N. C., is in the market for machine mill sash, door, blind and builders' material factory.

TRADE NOTES.

Saw-Mill.—A complete saw-mill plant of 30,000 feet capacity daily is offered for sale by Edmund Alexander, Buxton, N. C.

Wants a Good Novelty.—F. W. Barnacio, 809 Equitable Building, Baltimore, Md., wants to buy or secure controlling interest in a good selling novelty. Mr. Barnacio is a patent attorney of long experience, and was formerly located in Washington.

Viennet in New York.—For the better convenience of clients and friends, Jos. H. Williamson, business manager of the Viennet Advertising Agency (of Philadelphia), has removed his New York office from 127 Duane street to Room 719 Temple Court.

Sale of Motor Factory.—An opportunity to secure a completely-equipped modern plant for manufacturing motors is now presented to prospective investors in this branch of industry. The plant is that of the Manhattan Oil Motor Co. at Jersey City, N. J. The sale will be held January 22 by order of court. Address for information Chas. D. Thompson, 1 Exchange Place.

Supplying Cotton Mills.—One of the successful machinery plants of Georgia is the Davis Foundry and Machine Works at Rome. The company has supplied many orders recently, including water-wheels and full supplementary equipment for 300-horse-power plant at the Caples Cotton Mills, Troy, N. C. The Davis Double Turbine Wheel is the company's specialty.

Acme of Oil Filters.—The increasing favor with which the Cross Oil Filter meets continues to keep its manufacturer occupied busily. The noted industrial companies of the country fully appreciate the Cross, as is indicated by their orders. The Atlas Cement Co. of Northampton, Pa., is using eight of the filters. The Burt Manufacturing Co., Akron, Ohio, makes the filters.

Hose Coupling Par-Excellence.—Such is the coupling manufactured by the W. J. Clark Co., Salem, Ohio. This specialty is the "Quick as Wink" hose coupling. It has been found to be a time-saver in shops where compressed air is used, and is gaining increased favor for hose-connecting pneumatic tools and machinery. Messrs. Frick & Lindsay of Pittsburgh have contracted for a large quantity of "Quick as Wink" couplings for such purpose.

Perforated Metals Active.—The demand for perforated metals is very active, and the orders for the new year are numerous. A leader in this branch of manufacture is the Robert Aitchison Perforated Metal Co. of Chicago, which supplies such metals for use in fanning mills, ice machines, clay screens and cottonseed-oil machinery. Every evidence for continued prosperity this year in perforated metal is indicated by the Aitchison orders.

Of Interest to Southern Machine Works.—The patentee of an improved gasoline engine and of an improved molding machine for foundries is desirous of arranging for their manufacture. The inventor is a machinist of twelve years' experience, thoroughly conversant, he states, with the business. He is ready to correspond with any Southern plant that may consider with favor an arrangement to manufacture the engines and molding machines. Address "Box," care of Manufacturers' Record.

Q. & C. and Railroad Supply Companies.—Announcement is made that, commencing with January 1, the Q. & C. Co. and the Railroad Supply Co. will be operated as one company under the title of the Railroad Supply Co., D. S. Wiggin being chairman of the board and C. E. Quincy, president. General offices are in the Bedford Building, Chicago; New York office at 106 Liberty street. The company's title indicates fully the nature of its business, which is fully known to buyers throughout the country.

Agents for Electric-Light Manipulator.—Numerous inquiries from all sections of the South have reached the Incandescent Electric Light Manipulator Co. of Boston regarding its Morse adjuster and other specialties. Because of these inquiries the company (which has its office at 116 Bedford street)

has decided to appoint agents in the large cities of the South, and invites correspondence. The use of the company's manipulators abolishes the need of extension ladders, chairs, etc., in renewing electric lamps and cleaning them.

Agricultural Works Enlarging.—The demand, both at home and abroad, for the agricultural machinery, tools, saw-mills and other apparatus manufactured by Messrs. Hench & Dromgold at York, Pa., has necessitated improvements by that firm. Their export trade is especially promising, one of their recent shipments being 500 harrows for South America. The improvements mentioned include the erection of a 65x130-foot addition, to be used principally for storing purposes, a 150-horse-power boiler and an 85-foot brick stack.

Sprague Electric in Baltimore.—During the coming years of prosperity there will be many machine shops and other plants equipped with electrically-driven machines. The manufacturers who will supply this demand will be mainly those whose product has long stood the test of actual service under exacting conditions and taken the front rank in their respective classes. Such a manufacturer is the Sprague Electric Co. of New York. Its constantly increasing business in the South now demands closer touch with that section, and in order to facilitate this an office has been located in Baltimore, rooms in the Guardian Trust Building, W. H. A. Davidson being manager. Mr. Davidson was with the New York office for many years, and has sold Lundell motors ever since they have been on the market, therefore being thoroughly familiar with their characteristics and superior features.

Boilers in Pudding.—There are many distinct avenues into which boilers enter where the service required is of a special and exacting nature. This is true of operation on puddling furnaces, and hence iron manufacturers select for this purpose only those boilers whose general and particular excellence for the service is fully assured. Such a boiler is the Hyde Water Tube Safety Boiler built by Messrs. Hyde Bros. & Co., 902 Lewis Building, Pittsburg. This firm has installed a number of its boilers to work on puddling furnaces for the Pittsburg Forge & Iron Co., is filling a third contract for American Car & Foundry Co., Detroit; a fourth contract for the American Rolling Mill Co., Muncie, and has completed a third contract for Spang, Chalfant & Co., Pittsburg. The firm is also installing two boilers for a New Albany iron concern and 750 horse-power of boilers for a new plant at Scranton, Pa.

Mueller Employees' Banquet.—Employers are continually showing in this country their desire for a better understanding and friendship with their employees. The H. Mueller Manufacturing Co. of Decatur, Ill., has been noticeable among these employers. Its third annual banquet to its attaches, numbering about 125, was tendered on December 31. Young men predominated at the gathering. The after-dinner speeches were of a character to promote good fellowship, and the other interesting features were numerous. One speaker referred in a facetious vein to the multitude of products the company is now offering, saying that where this product was limited in 1889, it now comprised so many articles that it would take a Philadelphia lawyer to tell what all is manufactured. The Mueller concern is the famous manufacturer of the extensive line of water and gas works' and plumbers' supplies of the "H. M." trade-mark.

Prevent Slipping or Tight Belts.—Users of power are well acquainted with the annoyance of belt-slipping or tight belts. Not only is this mere annoyance, but losses in waste of power and of fuel, interrupted running of machinery and unnecessary wear and tear on equipment and belts result from these conditions. The improvement of these conditions results in economies of a very material nature. The smooth, slippery surfaces of pulleys are difficult surfaces for a belt to run on, and the Warren Company of 26 Jackson street, Chicago, has introduced a cover for same. The use of this material accomplishes the desirable results indicated above. The Warren Company has manufactured this cover successfully for five years, and many power users throughout the country have given the strongest recommendations as to its meritable qualities. Its cost is small, and it will save much more than its price in fuel and belt accounts. The cover is applied with a brush. Those recommending it include the most important lumber mills, iron works, foundries, woodworking plants, cotton and woolen mills, electric plants and various other classes of industries. Southern cotton factories especially have highly commended the company for enabling them to improve

their belt service by the use of Warren's pulley cover. The manufacturer will send sample on thirty days' trial to responsible concerns.

General Construction.—The continued development of industrial resources in the South has created many important branches of business. Among these is the contractor for erecting buildings of all kinds. Large structures have been especially numerous in the textile industry, and a thorough knowledge of building materials of improved manufacture and a complete understanding of modern methods of construction is necessary to meet the demands of the day. C. H. Norton of Durham, N. C., has been especially prominent in this direction, although he engages in all classes of construction work. Two large contracts of 1900 which Mr. Norton filled were the buildings of the Golden Belt Manufacturing Co. and the Durham Hosiery Mill Co. at Durham, N. C. The Golden Belt Mill is two stories high, with basement, 104x385 feet, with storage-house, bag department, boiler and engine house attached; cost was \$125,000. The hosiery mill cost \$75,000, being three stories high, with basement, 104x249 feet, boiler and power house attached. Mr. Norton is prepared to submit estimates on any class of construction work.

Roofing Used Everywhere.—One of the most important of modern building materials and supplies is roofing. Improvements in this product have been made at various times, new methods and raw materials being utilized for their manufacture. Durability under differing climatic conditions, resistance to fire, waterproof qualities and many other points of excellence in roofing appeal to the discerning user. Improved roofing materials have found their especial adaptability on factory buildings of every character. One of the most successful of roofings is that made by the Trinidad Asphalt Manufacturing Co. of St. Louis and known as Rubber Felting, with interlocking lap. This roofing is known almost everywhere. Its efficient qualities have caused its adoption for many buildings. In the South it has been largely used during recent years by important industries. A Savannah ship company used 600,000 square feet; a Covington (Ga.) cotton mill used 150,000 square feet, and T. C. Burke of Macon used 245,000 square feet. Rubber Felting will be used exclusively on the Pan-American Exposition buildings, one structure alone requiring 200,000 square feet; altogether 2,000,000 square feet will be used. This is claimed to be the largest order ever placed for roofing, and was obtained only after strenuous competition. Inquirers for information regarding the product herein mentioned are invited to address the company.

Interchange of Ideas.—In order to secure the advantages of personal acquaintance and interchange of ideas among its various representatives the Buffalo (N. Y.) Forge Co. called together in New Year's week its entire staff. During the gathering the firm entertained most hospitably, thus promoting good fellowship. As a result of the contact of the various attaches of the business much valuable information and ideas were communicated. The various engineering problems arising in heating and blast-plant installation were discussed with that easy familiarity which comes from practical experience. D. W. Roper, traveling for the company in England and on the Continent during the past year, gave interesting information concerning European conditions. H. W. Kreinheder, who was instrumental with valuable aid and suggestions in founding the Buffalo Forge Co., was the guest of honor, and at the banquet was seated between Messrs. Wm. F. Wendt and Henry W. Wendt, senior and junior members of the firm. The Buffalo Forge Co. has grown in twenty-five years from an inconsequential shop to an immense six-story factory, occupying four city blocks, and the company is already hampered for space, although the building was completed but recently. Heating and ventilating equipments, drying apparatus, drills, punches, and shears for blacksmiths and other machinery is planned and manufactured at the factory with a success that is attested by many important installations throughout this and foreign countries.

Star Mills for Corn, Flour, Cement, etc.—Improved methods and apparatus for milling corn, flour and other products have kept pace with the times. Experience and practical experiments have demonstrated the merits of new apparatus of this character, and the millers of the country have been prompt to avail themselves of the betterments accomplished. The South has been forward in this regard, new mills for corn and flour having been erected and old plants remodeled and improved during recent years. Messrs. B. F.

Starr & Co. of Baltimore, Md., have been among the foremost mill builders and furnishers for many years, their business having been established first in 1847. Recent contracts fulfilled by this firm were of a varying character. They included a corn-mill outfit for the Hillsboro (N. C.) Milling & Manufacturing Co.; two large mills for making fine, soft table meal for O. O. Young, Henderson, N. C.; outfits of a like character for E. S. Carey of Saluda, Va.; Blackmore & Robbins of Sandersville, Miss., and R. G. Robertson of Lynchburg, Va.; also remodeled on reel system and increased capacity for Hoods Mills (Md.) Milling Co.; remodeled mill at Larue, Pa., for J. E. Snyder, putting in additional reels instead of sifter; overhauled mill and supplied "Star" apparatus for mills of R. H. Dulaney and J. B. Woodson at Lowesville, Va. Messrs. Starr & Co. also supply enameling mills for cement works, and their recent contracts included one from the Gender & Paeschke Manufacturing Co. of Milwaukee for two special mills, recently placed on the market. These are similar to the mills of the Baltimore Enamel Co., for whom Starr & Co. first designed and built enameling mills. The best imported French burr stones, Swiss bolting cloth and other equipment and supplies for mills are also offered by Messrs. Starr & Co. Information regarding any or all of the Starr goods can be obtained on inquiry.

TRADE LITERATURE.

Kelly's Calendar.—The calendar issued by the Kelly Foundry and Machine Works of Goshen, Ind., presents a handsome colored picture of female beauty, together with the customary date pad for reference. The company manufactures an extensive line of the products indicated by its title.

Factory Sites.—M. B. Harlow & Co. of Alexandria, Va., and Washington, D. C., (643 Louisiana avenue N. W.) are distributing their 1901 calendar. The firm reminds the public that it sells factory and business sites where capital and machinery are exempt from taxation, located for rail and water transportation.

Scions of Nobility.—G. M. Davis & Son, Palatka, Fla., have issued a calendar for the year containing a reproduction of noted paintings. One of these is a reproduction, 8x12 inches in size, of "Scions of Nobility," a noted painting of two large dogs. Davis & Son make use of this calendar to advertise their cypress tanks, tubs and vats, which they manufacture in all sizes.

Bethlehem Steel Co.—The product of the Bethlehem Steel Co. of South Bethlehem, Pa., is received with great favor throughout the industrial world. Its forgings and castings of all descriptions are made of open-hearth carbon steel or open-hearth nickel steel, and have long served manufacturers of great prominence. The company has issued a calendar for this year, each month's pad picturing some portion of its plant or some manufactured article. An accompanying table shows the physical properties guaranteed in the forgings.

Anything About Rubber?—"When It's Anything About Rubber, Ask Us." Is the parting salutation of a neat little booklet recently issued by the Boston Belting Co. The booklet shows a portion of the company's line of mats, matting and treads for railway and steamship work, and it is difficult to imagine any want in this line which has not been anticipated. Any of the stores, Boston, New York, Buffalo, Chicago, St. Louis, Milwaukee, Philadelphia or San Francisco, will be pleased to send copy of the booklet.

Watkins Hay Press.—A hay press to serve not only for hay, but for products including forage, peavines, oat straw, shredded corn, corn grass, hay and clover, is an important installation. The demand for equipments of this character has increased from year to year and become of such moment that inventors and machinery builders have given much thought, time and experiments to designing and constructing them. The Watkins Hay Press Co. of East Point, Ga., has been especially successful in this branch of mechanics, and its Boy Hay Press has met with extended favor. This press has stood the test with the various field growths mentioned above, and hundreds of the best farmers attest to its efficiency, simplicity, durability and economy. Not only the farmer of extensive operations, but also the one working on a limited scale is greatly benefited by this press. The press will save money for the farmer and prove a boon to the latter. It requires but two stout boys to pack 75 to 100 bales a day with it. Send for booklet reciting the chief facts.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

New Southern National Banks.

Out of fifty-six national banks organized in the South since March 14, with less than \$50,000 capital, twenty-eight are located in Texas alone. This is a very significant indication of the increase in business and manufacturing in that State and of the growth of the smaller towns, requiring additional banking facilities. No less than thirty-five national banks with \$50,000 capital and over, organized since March 14, are also located in Southern communities. The new banks of the larger class represent 30 per cent. of the entire number chartered in the United States during the period under consideration.

Cotton and Dividends.

The announcement that the Louisville & Nashville Railroad Co. has increased its semi-annual dividend to 2½ per cent. is thus commented on by the Financial Chronicle:

"This follows naturally from the expanding traffic and revenues of the system and from the general prosperity of industrial interests. In this prosperity the South is sharing to the full extent, and perhaps even more than the rest of the country. The high price which the Southern planter is getting for his cotton is an important item, increasing greatly the purchasing power of Southern communities."

New Corporations.

The Bank of Oglethorpe, organized at Oglethorpe, Ga., is capitalized at \$25,000. Arrangements are being made to organize a national bank at Shreveport, La., with \$200,000 capital stock.

The Bank of Swainsboro, Ga., recently organized, is capitalized at \$25,000. G. S. Rountree is one of the directors.

Thomas J. Clay of Whitecastle, La., is interested in a bank to be opened at Ruston, La., with \$50,000 capital stock.

J. T. May and others have organized the Muhlenberg County Savings Bank at Greenville, Ky., capitalized at \$15,000.

Lee M. Otts of Greensboro, Ala., has decided to obtain a national charter for the private bank in which he is interested.

Local business men are considering the formation of a national bank at Lake Charles, La., to be capitalized at \$100,000.

The First National Bank, recently organized at Forsyth, Ga., has elected J. H. Ponder president, Paul A. Bowden cashier.

The question of organizing a savings bank at Farmville, Va., is being considered by Dr. Winston and others of that town.

John J. Riley and others are interested in the Savings Bank of Lexington, Ky., which has been formed with \$15,000 capital stock.

R. H. Megary is one of the incorporators of the Sharon Loan and Savings Association, organized at Baltimore with \$1,000,000 capital stock.

The First National Bank, recently organized at Nevada, Texas, with \$25,000 capital stock, will have among its directors M. J. Dennis and J. M. Smith.

The Russellville Bank of Russellville, Ala., will begin business in a few days. S. S. Broadus of Florence, Ala., is the principal stockholder in the institution.

N. B. Davidson has been elected president, and A. G. Clapham, cashier, of the

First National Bank of Farmville, Va., which is nearly ready to begin business.

The application to organize a national bank at Rogers, Texas, has been approved. It will have \$25,000 capital stock. George C. Pendleton is one of the directors.

The Texas Life Insurance Co. has been organized, with principal offices at Waco, Texas, and capitalized at \$100,000. Among those interested are W. B. Mayfield and E. M. Ewing.

New Securities.

The Reynolds Tobacco Co. of Bristol, Tenn., has decided to increase its capital stock to \$500,000.

The Citizens' Bank of Jennings, La., has decided to increase its capital stock from \$20,000 to \$30,000.

The Memphis Trust Co. of Memphis, Tenn., has decided to increase its capital stock from \$200,000 to \$300,000.

S. M. Bloom of Hagerstown, Md., has purchased the issue of \$17,000 in 4 per cent. bonds of this city at 106.06.

The State authorities have approved an issue of \$50,000 in bonds of Honey Grove, Texas. Address the town clerk.

The town of Rockville, Tenn., will vote January 25 on the question of issuing \$20,000 in bonds for improvements.

Bids will be received until January 21 by J. P. Byrne, city recorder, for \$50,000 in 4 per cent. bonds of Nashville, Tenn.

The city of Macon, Ga., will vote February 19 on a proposed issue of \$70,000 in bonds for improvements. The mayor may be addressed.

The State legislature has authorized the town of Bessemer, Ala., to issue \$100,000 in bonds for improvements. The mayor may be addressed.

The city of Shreveport, La., is considering the question of issuing \$92,000 in bonds for various improvements. The mayor may be addressed.

The town of Hearne, Texas, has voted in favor of issuing \$25,000 in bonds for various improvements. The town clerk may be addressed for further particulars.

Bids will be received until February 2 for an issue of \$25,000 in 5 per cent. bonds of the Norfolk county school district. The county recorder at Berkley, Va., may be addressed.

Proposals will be received until January 21 for the issue of \$30,000 in 4 per cent. improvement bonds to be issued by the town of Hyattsville, Md. William H. Richardson is town treasurer.

The election recently held at Durham, N. C., resulted in favor of a proposed issue of \$100,000 in bonds for sewerage purposes and \$100,000 for street improvements. The mayor may be addressed.

Messrs. Josiah Morris & Co. of Montgomery, Ala., have purchased the issue of \$100,000 in 5 per cent. bonds of Montgomery county, Alabama, paying 111, an interest basis of a little over 4 per cent.

The city council of Fort Worth, Texas, has adopted a resolution authorizing the mayor and finance committee to make a contract for the refunding of the present bonded indebtedness of the city. The mayor may be addressed for further particulars.

Financial Notes.

The Raleigh Real Estate, Trust & Insurance Co. of Raleigh, N. C., has absorbed the business of Wynne, Ellington & Co. of that city. It is understood that the trust company will increase its capital stock to \$40,000. J. S. Wynne is president.

It is announced that the New Orleans Gaslight Co. has agreed to a proposal made by a syndicate headed by E. C. Jones & Co. of New York to lease its plant to the syndicate until March 1, 1925.

The syndicate agrees to pay dividends to the company at the rate of 6 per cent. annually, also to expend \$350,000 in improvements and to pay about \$180,000 in floating and funded debts of the company.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending January 15.

Abbeville Cotton Mills (S. C.)	98
Alken Mfg. Co. (S. C.)	93
American Spinning Co. (S. C.)	100
Anderson Cotton Mills (S. C.)	124
Arden Cotton Mills (S. C.)	123
Arkwright Mills (S. C.)	123
Augusta Factory (Ga.)	83½
Avondale Mills (Ala.)	80
Belton Mills (S. C.)	100
Bennettsville Mfg. Co. (S. C.)	100
Cabarrus Cotton Mills (N. C.)	143
Cannon Mfg. Co. (N. C.)	150
Clifton Mfg. Co. (S. C.)	175
Clinton Cotton Mills (S. C.)	117
Courtenay Mfg. Co. (S. C.)	129
Darlington Mfg. Co. (S. C.)	94
Delgado Mills (N. C.)	97½
Eagle & Phenix Mills (Ga.)	100
Edna Cotton Mills (N. C.)	120
Enoree Mfg. Co. (S. C.)	118½
Enterprise Mfg. Co. (Ga.)	102
F. W. Poe Mfg. Co. (S. C.)	120
Gaffney Mfg. Co. (S. C.)	120
Granby Mills (S. C.)	100
Granby Mills (S. C.) 1st Pfd.	100
Grantville Mfg. Co. (S. C.)	160
Greenwood Cotton Mills (S. C.)	102
Grendel Mills (S. C.)	101½
Henderson Cotton Mills (N. C.)	120
Henrietta Mills (N. C.)	200
John P. King Mfg. Co. (Ga.)	100
Langley Mfg. Co. (S. C.)	140
Laurens Cotton Mills (S. C.)	140
Lockhart Mills (S. C.)	108
Louise Mills (N. C.)	125
Lynchburg Cotton Mills (Va.)	125
Lynchburg Cotton Mills (Va.) Pfd.	145
Manchester Cotton Mills (S. C.)	107
Mayo Mills (N. C.)	130
McColl Mfg. Co. (S. C.)	120
Modena Cotton Mills (N. C.)	140
Newberry Cotton Mills (S. C.)	110
Odd Mfg. Co. (N. C.)	110
Orr Cotton Mills (S. C.)	100
Pacolet Mfg. Co. (S. C.) new	215
Pelzer Mfg. Co. (S. C.)	175
Piedmont Mfg. Co. (S. C.)	170
Raleigh Cotton Mills (N. C.)	115
Richland Cotton Mills (S. C.)	101½
Richland Cotton Mills (S. C.) Pfd.	100
Roadsboro Mills (N. C.)	105
Sibley Mfg. Co. (Ga.)	85
Southern Cotton Mills (N. C.)	90
Spartan Mills (S. C.)	135
Trion Mfg. Co. (Ga.)	125
Tucapau Mills Co. (S. C.)	125
Union Cotton Mills (S. C.)	135
Union Cotton Mills (S. C.) Pfd.	102
Victor Mfg. Co. (S. C.)	104
Warren Mfg. Co. (S. C.)	84½
Warren Mfg. Co. (S. C.) Pfd.	103
Whitney Mfg. Co. (S. C.)	117
Wilmington Cot. Mills (N. C.) Pfd.	110
Wiscasset Mills (N. C.)	120

In the past year 148,567,882 cigars were made at Tampa, Fla., in a district containing 147 factories employing 6000 persons.

Southern Saw Works.—The Southern Saw Works of Atlanta, Ga., manufactures and repairs circular saws and machine knives. Its product has earned a reputation of merit not only in the South, but in other sections of the country. The company's 1901 calendar is a pretty specimen of the engraver's and color printer's art.

Graphite.—Users of graphite and its varying products will find interesting reading by a perusal of the January issue of "Graphite," which is published in the interest of Dixon's graphite productions, and for the purpose of establishing a better understanding of the different forms of graphite and their respective uses. Send for copy, addressing the Joseph Dixon Crucible Co., Jersey City, N. J.

Peacock's Calendar.—Car wheels and cars of all sizes and kinds constitute the product of the Peacock's Iron Works, Selma, Ala. This Southern plant has been successful for many years in its chosen specialty, and its patrons constantly increase. The company issues a calendar as a reminder to its friends and patrons. The sheet on which the day and month pad appears presents a picture in colors of a beautiful representative of childhood.

California—35-Day Tour via Pennsylvania Railroad.

The Pennsylvania Railroad Co. has arranged for a special personally-conducted tour through California, to leave New York and Philadelphia on February 14, by the "Golden Gate Special," composed exclusively of Pullman parlor-smoking, dining, drawing-room sleeping, compartment and observation cars, returning by March 20. This special train will be run over the entire route. Connecting train leaves Baltimore (Union Station) 8.50 A. M., February 14. The best hotels will be used where extended stops are made, but the

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train will be at the constant command of the party.

Round-trip tickets, covering all necessary expenses, \$450 from Baltimore, Md., and all points on Pennsylvania Railroad except Pittsburg.

For further information apply to ticket agents; B. Courlander, Jr., passenger agent Baltimore district, Baltimore, Md., or address Geo. W. Boyd, assistant general passenger agent, Philadelphia.

Florida—Two-Week Tour via Pennsylvania Railroad.

The first Pennsylvania Railroad tour of the season to Jacksonville, allowing two weeks in Florida, will leave New York, Philadelphia, Baltimore and Washington by special train on February 5.

Excursion tickets, including railway transportation, Pullman accommodations (one berth) and meals en route in both directions while traveling on the special train, will be sold at rate of \$48 from Baltimore and at proportionate rates from other points.

For tickets, itineraries and other information apply to ticket agents; B. Courlander, Jr., passenger agent Baltimore district, Baltimore, Md., or to Geo. W. Boyd, assistant general passenger agent, Broad Street Station, Philadelphia.

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